Interactions, improvisations and arrangements in the process of informing.

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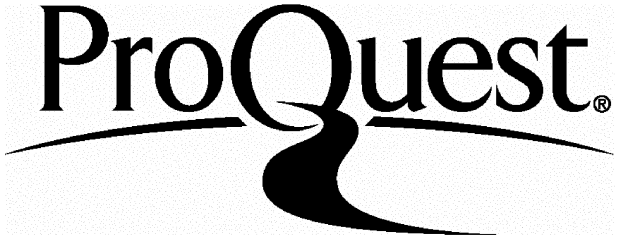
Award date:
1982

Awarding institution:
University of Bath

INTERACTIONS, IMPROVISATIONS AND ARRANGEMENTS IN THE PROCESS OF INFORMING

submitted by Alistair M. Preston
for the degree of Ph.D.
of the University of Bath
1982

AM Preston.



DEDICATED TO

MY MUM AND DAD

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to my two supervisors, Professor Iain Mangham and Dr. Graham Ray, for their encouragement, tolerance and guidance.

I would like to thank Ian Colville for his help in guiding me through, what at first, was a bewildering literature. And to Andrew Travers who introduced me to a more exciting and less well known area in the literature of the social sciences.

My special gratitude to my friends Barry Baldwin, Chris Wright, Ivan Clark, Nigel Sharrocks, Tony Jenner and again Andrew Travers who were my earliest subjects and inspiration in my study of creative, innovative,improvisatory behaviour.

My Gratitude to all the people at the factory for putting up with me for so long and supplying me with the data that made this thesis possible

My deepest appreciation to Pat Mason,my typist,and to John Mason, who edited this work. The thesis would not have been prepared with such efficiency with out their perseverence and kindness.

Finally, to Mary Cavender, who tolerated my many moods throughout the writing of this thesis, goes my deepest affection.

NOTES

1. The name of the organisation, the factory and the names of all the members of the organisation cited in this thesis have been changed.

2. The dialogue written in inverted commas, thus; "....." represent conversations reconstructed from my fieldnotes, which were written immediately after the episode. Such dialogue is therefore not necessarily verbatim.

3. The dialogue written in script form, thus; Charlie Johnson .... during the planning and production meetings are taken directly from my notes written during the meeting, and are therefore as accurate as the long handwriting of live conversation will permit.

4. The dialogue written in script form(as above) in response to questions from myself during an interview are from tape recordings, and are therefore absolutely verbatim. The single exception to this is the conversation with Martin Keyes who was reluctant to allow me to use a taperecorder.

THE CAST

James ALTON	Sales Account Executive
Charles ANDERSON	Assistant Financial Director of R.T.G. Ltd
Steve BAKER	Engineering Manager
Thomas BART	Financial Director of R.T.G. Ltd
Jim BROWN	Production Planner
Lynne CARTER	Personnel Officer
David CLARK	Factory Accountant
James COOK	Director of MADCAP
Roger DAVIDSON	Safety Officer
Sean DAVIES	The Storeman
Chris DAVIS	Operations Manager
Ian HARRISON	New Financial Manager
Carla HUTCHINSON	Personnel Assistant
Tom JACKSON	Quality Control Manager
Cyril JENKINS	Production Manager
Charlie JOHNSON	Departmental Production Manager
Clive JONES	Commercial Manager
Martin KEYES	Production Planner - then Material Controller
Kevin LINDSEY	Plastics Technologist
Nigel PLANT	Maintenance Manager
Peter RENTON	Manager in charge of introducing the "Contribution Approach."
Mike SAMPEY	Production Controller/Material Buyer
Mike SHILLING	Departmental Production Manager
Peter SHORT	Production Supervisor

Robin SLATER	Production Supervisor
Bert SIMONS	Sales Account Executive
John SIMS	Managing Director of R.T.G. Plastics
Tim STEED	Engineering Supervisor
John STRATFORD	Marketing Manager
Peter TRAVERS	Assistant Marketing Manager
Ron WELSH	Tool Engineer
Simon WHITE	Works Study and Information Manager
David WRIGHT	Financial Manager
Jane	David Wright and Ian Harrison's Secretary
Mary	Chris Davis and Lynne Carter's Secretary
Alistair	The Researcher

SUMMARY

This thesis is an exploratory study of the process of informing among a group of managers directly involved in the daily operations of a manufacturing plant.

In addition to describing and analysing the process of informing itself, the thesis depicts the process of the entire research act.

I define the process of informing as an interpretative process whereby managers assign meaning to data or "mere" information (processed data) gathered or received from official documented information, meetings, personal records, observations and particularly interactions. The managers thereby construct a definition of the situation and act or select a course of action on the basis of that definition.

I introduce the concept of improvisation, derived from the music and literature of jazz, to depict the process whereby managers construct or create a novel, innovative course of action in a situation which is defined to be unfamiliar, and for which there is no behavioural precedent.

I introduce the concept of loosely coupled shared arrangements, to depict the process by which managers align their individual courses of action and thus enter into joint or concerted action. These arrangements, through frequent occurrence, may appear as semi-permanent structural units which give form and structure to the organisation. I define informant networks as shared arrangements to inform, where managers rely on each other to supply them with reliable, accurate and timely information.

Finally, I adopt a critical stand towards the traditional view of management information systems. Firstly, I argue that the MIS may only be viewed as being part of the overall process of informing and not as constituting the whole of it. Secondly, I suggest that the MIS produces "mere" information which is not imbued with meaning until the manager's interpretative process is brought into play. Finally, I question the assumptions about choice and the nature of organisation reality underpinning the traditional view of management information systems.

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INTRODUCTION

This research began as a multi-disciplinary project. The initial intention was to study the behavioural and organisational implications of financial, and then production, information systems. What transpired was a study of the process of informing, which the production information system may be viewed as part of. The process of informing was essentially interpreted within the social psychological perspective of symbolic interactionism, rather than within the theories and concepts of the management information system literature.

The field research was a qualitative, longitudinal, participant observation study. The research was conducted over a fifty-two week period in a plastics container factory. Through circumstances, which will be outlined in the thesis, the focus of this study was on the managers directly involved in the day-to-day production activities of the factory, or as these managers themselves described it, "within the middle management level of the organisation."

The title; Interactions, Improvisations and Arrangements in the Process of Informing, depicts the process by which the managers, directly involved in the daily operations of the factory, informed themselves, decided on a course of action and entered into joint or concerted action. Implied in the title are a number of assumptions about the nature of information, about the nature of human behaviour and about the nature of organisational reality. These assumptions, reflected in my analysis, are the result or culmination of a research act spanning four years and are markedly different from the assumptions held at the beginning of the research project.

The aim of this thesis is to provide an account of the entire research act in which I include; the formation and development of a research topic and theoretical perspective; the selection of a research setting, methodology.and methods for gathering data; the presentation of the data and the analysis or interpretation of the findings within the theoretical perspective.

The research act may be compared to a journey of exploration and discovery. The researcher in this metaphor is the traveller. The thesis therefore, is a statement of where I, as a researcher, was coming from and where I, as a researcher, went to. It includes an account of my experiences in conducting the research, what I found on the way and how I analysed these findings in the light of my experience.

The thesis is divided into two sections. The first section (chapters 1 - 4) is largely descriptive. Chapter 1 is a description of the process of gaining access to the research setting and of my perceived abilities and liabilities in terms of knowledge and experience at the beginning of the field work.

Chapter 2 is a description of my early days in the setting; of meeting the people and gaining an insight into their character and relationships; of becoming familiar with the physical environment, the production processes and the language of the plastic container industry. It further describes my "selection" of a research topic and the methods I employed to gather data.

These first two chapters are thus largely autobiographical, they provide an account of my experiences as a researcher, as well as providing the

reader with an insight into the setting itself. In writing these chapters I have adopted a narrative style and have used the first person singular (which I persist with throughout the thesis.) I adopted this approach to depict the actual process of research and to make explicit my role in the research. I regard the role of the researcher as being of crucial importance to the research act. Chapters 1 and 2 will be discussed in chapter 12 on methodology.

Chapter 3 presents some interim conclusions based on my initial topic and research strategy, which was to study the organisational and behavioural implications of introducting a computerised production information system. In this chapter the managers,as far as possible, speak for themselves. They describe their views of information, their criticisms of it and the limitations it had for them, both before and after the introduction of the new system. I describe how the data gathered thwarted my change model and how a new topic, that of how managers informed themselves, emerged. Chapter 4 addresses this question. Again in the managers own words, they describe how and why they gathered information.

Chapters 3 and 4 are thus biographical they concern the actions and activities of the managers themselves.. These chapters form the foundation of my analysis in the following section.

Section 2 (chapters 5 - 10) is largely analytical and represents my interpretation of the data within my developed and developing theoretical perspective.

Chapter 5 examines the mechanics of the process of informing, including the various media used, both "formal" and "informal," the subject matter

of the information and the degree of contact the managers had with the event in question.

Chapter 6 introduces the basic principles of symbolic interaction and analyses the process whereby the managers converted "mere" information or data into meaningful information, within this perspective.

Chapter 7 introduces the role of others in the process of informing.

Chapter 8 introduces the concepts of self and one's role and the implications these have for the process of informing.

Chapter 9 questions the nature of selecting or choosing a course of action in both familiar and unfamiliar problematic situations. I introduce the jazz metaphor with its twin concepts of improvisation and arrangement and discuss how the concept of improvisation might be used to understand the choice process in unfamiliar, problematic situations. I finally discuss the relationship between improvisation and the process of informing.

Chapter 10 introduces the concept of loosely coupled shared arrangements as an explanation of concerted or joint action and how such arrangements give order and the appearance of structure to the organisational setting. I further explain the relationship between improvisation and these arrangements which provides a model for explaining change and stability. I then examine these arrangements and the process of informing.

At the ends of chapters 5, 8, 9 and 10, I discuss the implications that the concepts contained in these chapters have for the traditional view

of management information systems.

Chapter 11 presents a summary and certain conclusions of the thesis.

Chapter 12 examines the methodological implications of this project and draws upon my experiences as described in the thesis, particularly in chapters 1 and 2.

CHAPTER I

BEFORE THE FIELDWORK

In this chapter I describe the process of gaining access to the social or organizational setting. I include a brief description of my own theoretical perspective and methodology although more detail will be provided throughout the thesis. I include a description of my own perceived abilities and liabilities in terms of my knowledge and experience at the commencement of my field work. I believe that these are of crucial importance to the conduct and success or failure of the research project.

1.1 Negotiating Entry

My appointment with Mr Thomas Bart, the Financial Director of the Richard Tomlinson Group, had been preceded by five months of 'negotiating entry' with the Area Administrator of an Area Health Authority. It had been my intention, and the intention of the Area Administrator, that I would study the behavioural effects of a proposed change in the budgetary control system in one of the Area's more autonomous hospitals. After five months of discussion and with little or no visible or tangible progress, I had become so disillusioned with the concept of qualitative fieldwork or participant observation in a social setting, that I had once again begun to design a questionnaire. After a year of literature surveys and methodological discussion groups, I was becoming increasingly anxious about gathering data. The idea of questionnaires and quantitative analysis was becoming less of a demon than I had previously thought it to be.

In contrast,'negotiating entry' with Thomas Bart took a matter of hours rather than months. I had been given an introduction to Thomas Bart and

had forwarded a brief outline of my research interests.[1] In my desire to gain access to a research setting I had made my bid as general as possible.

At the beginning of the interview I described my interest as being in the area of financial information systems and human behaviour. I added that it need not be financial information, but that any aspect of management information would be of interest to me.

> Thomas Bart's initial response was: "Could you be a bit more specific?"
>
> "When I first started research at the University". I replied, "I was interested in studying the behavioural implications of changes in an information system...but now..."
>
> Thomas Bart interrupted. "What do you mean by the behavioural implications of changes?"
>
> "Well." I said. "I feel that any change in an organisation, especially in the information system, will have an effect on a number of levels. Until now researchers have been concerned mainly with structural changes, and have often ignored the behavioural implications. I wish to study how - if at all - a change in the information system might effect the behaviour, attitudes and values of people involved in the system; either the people who prepare the information or those who use it."
>
> "I see," he said.
>
> I realised that I had slipped into an old script from my 'organizational change' days. My entrance depended on there being a change in the information system. I had wished to avoid this condition, and hastened to add, "Yes, but as a starting point I am now interested simply in how those people involved in "information" view it: what it means to them. I'm

not particularly concerned that there be a change taking place."

"And how would you propose to carry out this research?", he asked.

I regarded this interview as being my last attempt at qualitative research and replied: "I feel that if we want to understand peoples' behaviour, their attitudes, values and actions, we, as researchers must observe people behaving. Through observation, informal chats and interviews, we will hopefully understand how people view things, and how their view affects their behaviour. I would propose using a method of research called participant observation. This entails spending some time in an organisation, collecting data through observation and by talking to the people."

Thomas Bart looked pensive, I thought he disapproved of my proposed approach. "I see from your outline here, that you intend to make a comparative study of divisions in R.T.G. and districts within the Health Authority. Do you think you'll have time to conduct your in-depth style of research?"

"Yes. That's a problem I'll face." I replied. "I might only have time to research one of each, but after doing this I should be able to compile a meaningful questionnaire which I could send to the other divisions and districts. This would save me time whilst providing me with more data." I added this final part incase Thomas Bart preferred the more quantitative approach. I was wrong.

"You know we've had researchers here before." He said. "I think they came from Manchester. They had a questionnaire which they wanted us to fill in, on how we account for inflation; a pet subject of mine. When they sent the written-up case study to us for our comments, we were frankly disappointed. It failed to reflect what we intended when filling it in. I think this is a basic flaw in questionnaires!" He paused, and, reaching for the phone, added "Let me give Charles Anderson a ring, he's my assistant."

By this time I was completely baffled, and felt the interview

slipping away from me. On the one hand I had not made it clear what I wished to study, and then to cap it all, I had given the impression that I did not know how I was going to study it. Charles Anderson joined us and I had to repeat my spiel. I tried to clarify one or two points as I went.

Thomas Bart then continued. "I think we could fit Alistair in at Avon as a starter. John Sims is always going on about their information, and now that Chris Davis is there, there should be plenty of changes."

"Yes." said Charles Anderson."Of course we would have to speak to John about it first, but I don't think there'd be any problem. It might take some time though, you realise we have the accountant's conference in a couple of weeks time, so I'll be tied up with that."

Thomas Bart interrupted, "Maybe Alistair could attend." Turning to me, he continued. "We're introducing the contribution approach in our costing and pricing systems, so we will have all the Division Accountants together at our staff college. It's a three-day affair, should be very interesting."

"Yes." said Charles Anderson "And Alistair could meet David Wright, he's the Financial Manager at Avon."

I still did not know what Avon was: Thomas Bart explained that it was an operating division, and then went on to briefly describe it. The following points seemed relevant to me at the time.

The factory at Avon was one part of the Plastic Container Division. It specialised in two manufacturing processes called thermo forming and vacuum forming. He described the Plastics Division as their 'new baby.' It was the growth area in the packaging market and was 'ear-marked' for extensive capital investment. New younger managers,

who Thomas Bart called the 'bright young boys of R.T.G.,' were being drafted in from other divisions within the company, to prepare the division for exploitation of the recognised market potential. The new managers formed an executive board, responsible for the development of both the Avon factory and the Injection Moulding factory. Until recently the two units were regarded, and run, as separate entities.

Thomas Bart then continued. "As you can see, there's a lot going on in the Plastics Division. Just take a look in your fridge when you get home and see how much of your food is packed in plastic containers. And, with people like Chris Davis in charge - he 'sorted out' R.T.G. Cups for us - even greater changes are taking place. So there should be plenty of scope for observing change in action."

Charles Anderson then added. "Changes are taking place in the information system itself. Not only are we introducing the contribution margin approach, but we are also developing the use of computer facilities in the units, which should expand the role of the accountant to that of overall information manager. I've just completed a report which will be sent to all the Division Accountants for discussion at the conference."

Thomas Bart added. "Chris Davis is also planning changes in his production information." He paused and then added. "Well! Subject to John's approval we'll arrange for you to attend the conference at our staff college on the ah..."

"23rd August", Charles Anderson interjected.

"That's right, the 23rd...Charles, will you see to the details?"

The conversation paused, as if they were waiting for some response from me. I remembered the methodological handbooks' emphasis on negotiating a contract which should include the degree of access granted, and so asked. "What access will I

> be given if I were to do research at Avon?" I immediately realised it was a stupid question.
>
> Thomas Bart replied, somewhat amused. "Well, assuming John approves of the project, it will be up to him and you to decide on the level of access, but I think he will be amenable to your research, especially if he can see some spin-off for the factory."

The meeting broke up after this, with an assurance from Charles Anderson that he would be in contact with me within a week or two.

I was disappointed with my performance in the interview. I felt that I had tentatively found a research setting through fortuitous circumstances rather than personal competence. I felt the vagueness of my bid would have been interpreted as not knowing what I wanted to research. I felt fortunate that Thomas Bart was favourably disposed towards research, and surprisingly, favoured the qualitative, participant observation approach.

I felt guilty that I had compromised my research topic and was going to compromise my methodology. This was due mainly to my lack of success with the Health Authority and my growing concern for gathering data. At this stage of my research I was willing to take whatever was offered for a research setting, even if this meant rethinking my research topic and approach. Again through fortuitous circumstances I felt that my rethink might not have to be too radical.

Finally I felt anxious; I had already had too many disappointments with the Health Authority, and could only regard my entrance as definite when I received confirmation from Charles Anderson. On the

other hand everything seemed fairly definite, and I now had to face up to the prospect of becoming a participant observer and carry out qualitative research in a social setting.

The letter arrived from Charles Anderson within the week; enclosed were the conference package with details, a copy of his discussion paper entitled 'Management Information Systems and Use of Computer Facilities' and a covering letter saying that John Sims and Chris Davis were in favour of my research. Charles Anderson also offered me transport to the Staff College for the conference. Thus, after five months of fruitless negotiations with the Health Authority I was offered access to R.T.G. Plastics within a week. Thomas Bart had lived up to his nickname, which I subsequently learned was 'Wizz Bang Bart.'

1.2. The Accountants Conference

As was promised, all the Chief Accountants and Financial Managers from the various divisions were at the conference. Charles Anderson introduced me to one or two, explaining that I was going to do research in information systems at Avon. I was most definitely an outsider; the others were discussing 'old times' or current company policy. The atmosphere was relaxed, almost playful, the bi-annual conference seemed to be regarded as a vacation.

I was introduced to David Wright, from Avon, and his Factory Accountant, David Clark. David Wright was a large jovial man with a West Country accent; he reminded me more of a farmer than a financial manager. David Clark, in contrast, was a small, immaculately turned out accountant, about my age, and had only been with R.T.G. for some nine months.

> On being introduced; David Bright boomed out, "Oh, so you're the poor sod who's going to try and sort out our information system." There was laughter all round. "No, but seriously, we have a few problems at Avon. We haven't caught up with our expansion yet. There'll be plenty for you to do there."
>
> "I'm not sure whether I'm going to be doing much." I said. "I'm really there to observe and learn."
>
> "Oh, there's plenty to learn." He said. "Learning how not to do things, that is." Again everybody laughed.

I was a little baffled by these remarks, and somewhat embarrassed by the laughter. The meaning behind these 'jokes' would become clear to me during my fieldwork at Avon. The conversation then swung away from me. I was left alone, except for David Clark who seemed to feel as much an outsider as I did.

> "How long have you been at the University?", he asked. "This is my sixth year coming up." I replied. "But I did travel in the States for a while." I then added, without really thinking, "Which University did you go to?"
>
> With a forced smile he replied, "I did it the proper way, working for a firm and doing day release at Sheffield Poly, then I took my A.C.M.A. examinations."

A great deal of snobbery and reverse snobbery exists about University degrees; I naively assumed that all professional accountants had degrees. This gaff on my part, set the style of our relationship. David Clark and I never really 'got on' from that day. The opposite of every characteristic used to describe David was applicable to me. Not the most encouraging foundation to develop a relationship!

I saw very little of the two Davids at the conference; the days were tightly scheduled, and as both lived within commuting distance of the college, they returned home each evening. The conference itself was concerned with the contribution approach and the format of the annual financial reports required by Headquarters.
For much of the time I had no idea of what was going on. The concepts were, I thought familiar to me; the company was introducing a variation on the direct costing system for internal control and decision making. The language they used to describe these concepts was alien to me. They referred to the 'Boston Approach', this was the name of the American consultancy firm. Phrases such as "Direct labour until now part of oops will be regarded as part of burden." completely perplexed me. The two words 'oops' and 'burden' were used extensively. Later that evening I asked one of the accountants what they meant.

> He laughed and said, "I supposed they would sound a little strange for an outsider, 'oops' stands for out-of-pocket costs and 'burden' for fixed overheads."
>
> "I see. So out-of-pocket costs are the variable costs and burden the fixed costs."
>
> "Yes. That's right."
>
> "So you now regard labour, traditionally a variable cost as being fixed?." I asked.
>
> "Yep." He replied. "As Thomas Bart says, labour is fixed. It often can't be redeployed within the factory, and it most definitely can't be reduced or increased with small changes in the level of output."

In the evening,after the meal, we played cricket on the lawns and then retired to the bar to play bar billiards or darts and, of course, take a drink or two. It was in the evening I thought I would have an opportunity to discuss my research, and points of interest arising from the day's discussions. This, however, was not to be. A few people would lend a sympathetic ear but most conversations were not related to work. Peter Renton whose job it was to oversee the introduction of the contribution approach, and who obviously took it more seriously approached me, and asked;

> "Have we met? I can't remember seeing you before."
>
> "No." I replied. "I'm from Bath University, I'll be doing research into information systems at Avon."
>
> "Ah yes." He said. "Charles Anderson mentioned you. What exactly are you researching?"
>
> "I'm primarily interested in the behavioural implications of information." I replied. "How behaviour affects information systems, and how information systems in turn affect behaviour. I'm quite fortunate that the factory at Avon is introducing changes in their information systems, it will make researching the phenomenon simpler."
>
> "Very interesting." He replied. "One of the major problems I'm facing is to make this lot", pointing to the other accountants, "unlearn all their traditional accounting principles and approaches before I can teach them the new methods."

I followed this point up later in conversation with one of the accountants.

> "How much change will this system entail for you?" I asked.

"Not much." He replied. "I just take 'labour' from above the line 'in oops' and add it in with 'burden' below the line."

The conference was useful to me. Firstly, I learnt some of R.T.G.'s in-house accounting language, and a great deal more about the Boston and contribution concept approach. Secondly, I met the two Davids and so there were at least two people I knew at Avon. The greatest benefit, however, was that I met and socialised with a number of senior accountants from the group. This provided me with contacts which I could use at a later date, but more importantly it boosted my self-confidence, something I needed at that time.

I bade my farewells to the people I had met, and agreed with Charles Anderson and David Wright to commence my field work at Avon on the 4th September. The length of my stay and the amount of time I would be on site would depend on progress, but we agreed it would be in the order of three months and I would be there four days a week.

1.3 My Knowledge, Abilities and Liabilities

Before commencing my field work I could only describe myself as an inexperienced field researcher. I had conducted some interviews with the Student Union Executive at the University, and had used both tape recorders and video equipment. I had tried to evaluate my performance in these - as well as analysing the data - to examine my style and the amount of bias I introduced through my questions and comments. I did not feel at all confident about beginning field work in a live social setting. It was the same kind of feeling I had when first coming to University. I had some stereotype of a student, which was to be my new role, but this stereotype was crude and my role was ambiguous. Again, I had some stereotype of a

participant observer, mainly taken from John Lofland's 'Analysing Social Settings' (1976), but even with the aid of such methodological handbooks, I was still uncertain of how a participant observer should behave. Instructions such as 'develop trust', 'keep voluminous field notes', 'ensure strict confidentiality' and, above all, 'maintain a critical distance', did not allay my anxiety.

By the time I had gained access to R.T.G. Plastics, my research interests had developed through a number of stages. Initially the title of my research was 'The Interface Between Organisational Development and Financial Control Systems.' In pursuing this title I carried out extensive literature surveys in both areas.

The behavioural implications were of interest to me from the earliest days of my research. I had adopted the concepts, and the rhetoric of systems theory. I had also adopted an organization development methodology, advocating an action research approach. My earliest proposal was rife with organization development and systems theory clichés such as the 'morphogenic properties of the organization', 'consonance or dissonance between interrelated subsystems', 'on-going process' and ' organizational renewal'.[2] Although I had claimed an interest in the behavioural processes, I had no clear idea of how I would approach this aspect of change. I thus concentrated on the structural and mechanical aspects in my model. Any references to behaviour were in vague words such as 'attitudes' and 'values' or clothed in abstract jargon, such as 'inter'-and 'intra-group development' or 'developing a synergistic relationship between structural and behavioural change'.

In line with the current interest in the School of Management at the

time, and in order to make my behavioural processes more specific, I joined the participation band waggon. My new model was to examine changes in the financial control system brought about by the introduction of participative management. My emphasis was still a systems approach; examining how changes in the structure and process of an organization might affect the financial control sub-system. By this time I was also relating my work to decision-making styles, such as autocratic, democratic or participative and laissez-faire. It was with such a script that I approached the Health Authority, and commenced my five months of fruitless negotiations.

During those five months I began attending the Organization Behaviour Group's methodological seminars. This was my first introduction to the 'new paradigm' of research. These seminars and the resulting discussion with my peers and lecturers who advocated this approach, gave me my introduction to sociology and social psychology, and, in particular, to phenomenology, which included a brief look at ethnomethodology, symbolic interactionism, dramaturgy and social anthropology.

By the time I commenced my research, my vocabulary included words and phrases such as 'defining the situation', ' social scripts', 'garfinkling', 'the model of man is man', 'personal construct theory', and 'account analysis'. I had added to the organization development and financial control literature survey a brief survey of the phenomenological, sociology and social psychology literature. I also explored the methodological handbooks which accompanied this view of man. Although I was still interested in organizational change, financial control and behaviour, my emphasis had swung away from change. I was nowconcentrating more on the behavioural

implications. When I approached R.T.G. I had intended to drop the concept of change altogether, and had replaced the phrase 'control systems' with 'information systems'. During the interview with Thomas Bart, I had widened my scope to include any aspect of management information, and not just the financial.

These developments in my research interests, especially in the area of sociology and social psychology were in their infancy at the commencement of my field work. I could not claim to be totally unknowledgable; neither could I claim expertise. I described myself as having an acceptable level of incompetence. I could understand and relate to discussions in the seminars, and could in the main understand the literature. I could not, however, actively participate in the seminars, nor could I competently write or comment on the subjects.

I was aware that opposing schools of thought existed in sociology and social psychology, without fully understanding the intricacy of the arguments. I had developed a preference for the more interactionist, phenomenological approach; this was based more on intuitive feeling than careful analysis of the theory. Being able to relate my personal experiences and behaviour to the theory, convinced me of its validity. I felt that I was able to explain events in my own social settings more appropriately using the interactionist, phenomenological model or approach, than using a reductionist or structural positivist approach. The interactionist, phenomenological model, I felt, gave man some hope; the positivists had sentenced and committed man to a prison of circumstance.

In terms of methodology; I found participant observation, as derived

from the social anthropologists, appealing and appropriate. If I wished to study and understand peoples' behaviour, it seemed perfectly sensible to me to watch people behave, and then think about why they behaved in that way. I had little or no experience as a formal participant observer. I had, however, as a social being, participated in social settings and observed my own and others' behaviour.

The following is a summary of the position I was faced with before entering the field work stage of my research.

1.3.1 My Knowledge of the Setting

The factory was a medium sized manufacturing unit of a large divisionalized company. The unit was ear-marked for development and capital investment. The unit was undergoing some changes. It was being merged with another manufacturing unit to become the Plastics Division. New and younger managers were being drafted in to oversee these changes and to exploit the recognised growth potential. A new costing system, the contribution approach, was being introduced which would alter the financial information system.

1.3.2 My Knowledge about the People in the Setting

I had only met two people from R.T.G. Plastics, David Wright, the Financial Manager and David Clark, the Factory Accountant. Both were pleasant; David Wright was a jovial friendly person; David Clark was more reserved; I had experienced difficulty interacting with him. I had heard of two other Managers; John Sims, the Managing Director, of whom I knew nothing, except that he was willing to allow me to do research in his factory, and Chris Davis, the Operations Manager, who had been described as one of the 'bright

young men of R.T.G.', and to whom was attributed the 'sorting out' of R.T.G. Cups.

1.3.3 Their Knowledge of Me

Except for what I had told David Wright and David Clark, the people in the setting's knowledge of me would necessarily be second hand and brief. If Thomas Bart or Charles Anderson had provided a description of me based on our interview, I imagined that John Sims and Chris Davis would know that I came from Bath University, that I was interested in financial information systems, but not exclusively so, that I was interested in changes in systems, but not entirely so, that I was interested in human behaviour in some vague sense, that I wished to observe and interview, but that I might use questionnaires, that I would be staying for three months, but wasn't absolutely certain. Any other information, for instance Thomas Bart's impression of me as a person, may also have been communicated; what that impression was, was unknown to me.

1.3.4 The Research Contract

The research contract was ambiguous; I was given access to do research in a factory, and with people that I had not seen or met, and of whom had little or no knowledge. The degree of access was not stated; it appeared that it was up to me to negotiate that, on my arrival or during my stay.

1.3.5 Myself

In my own mind I was unsure of what I wanted to, or was going to, do research into. I was interested in how people responded to, or behaved

towards, information. I was not certain what type of information or indeed what type of people. I had some partially developed model of man which I found appealing, I could not, however, claim expertise in this area. I had some fairly clear ideas about the mode of research I was going to employ, but did not know how I was going to employ it. I felt reassured that I could 'get on with' most people but the prospect of being a participant observer was daunting.

The major point from this summary is that prior to my entering the research setting, there was a great deal of uncertainty surrounding the event. I had very little knowledge of the setting and even less knowledge of the people. The people, in turn, would have been equally uncertain of me, if they regarded it as important. I was uncertain of my knowledge relating to behaviour, one of the fundamental aspects of my research, and was uncertain of my competence as a participant observer. I was unknowledgeable without being totally naive. I had what could be regarded as an acceptable level of incompetence.

1.4 Summary

In this chapter I have provided a description of negotiating entry and of my earliest contact and experiences with members of the setting. I have attempted to express my feelings and apprehensions towards conducting qualitative research for the first time. I have further attempted to depict the confusion and naivety surrounding my knowledge and the changes that had recently taken place in my perspective towards human behaviour, organizations and research in general.

Notes

1. See Appendix 1
2. See Appendix 2

CHAPTER 2

EARLY DAYS

In this chapter I describe my early experiences in the research setting; of being introduced to the members of the setting; of becoming familiar with the physical environment and the production process. I further describe the methods by which I gathered data and the 'selection' of my initial research topic within the field.

2.1 The First Day

To get to Avon I had purchased a motor bike. On the first day it rained. I arrived dripping wet in my protective clothing. I had intended to find a suitable place to remove my outer skin and introduce myself in a presentable manner. Unfortunately, this plan was foiled when David Wright lent out of his office window and bellowed "Alistair, over here!". I trudged into the portacabin, which was serving as temporary offices, to be confornted by two secretaries; Jane, David Wright's secretary, and Mary, Chris Davis' secretary. Both were highly amused with my state. I had to struggle with my wet protective clothing balancing on one leg, then the other, avoiding sitting, for fear of wetting the seats, and all the time leaving puddles of water on their newly polished floor. I stood wondering where to put my gear; Mary made space above the radiator.

> "There, they'll dry out here". She said.
>
> Jane began making me coffee. "You must be frozen", she said.
>
> David Wright popped his head out of his office at one end of the cabin, and said, "Ah! Glad to see you're looking after him, I'll be with you in ten minutes".
>
> "Did you ride that bike all the way from Bath?" Jane asked.

"Yes", I replied. "A motor bike is all I can afford, being on a student's grant".

"Are we going to be treated to a strip every day?" Mary asked.

"You havn't seen anything yet!" I replied, still highly embarrassed and freezing cold. They both giggled at this.

"Do you take sugar?". Jane asked.

"No". I replied.

"Well here you go then, this'll warm you up", said Jane, handing me a welcome cup of coffee.

Jane and Mary were to become great friends of mine. I was given a desk in their office to write my notes. I spent many hours chatting to them when the bosses were out, keeping up on all the gossip in the factory and offices. Jane and Mary were invaluable sources of data to me, helping me build up a picture of the setting and the participants. Jane relieved the switchboard operator at lunch and spent most of her time 'ringing around' the other secretaries, catching up on the gossip which she, in turn, passed on to Mary and I.

As with any friendship, time is need for it to develop. My friendship with Mary and Jane was no exception. It took time before they would open up and include me in their more graphic conversations. At first, they never criticised or gossiped about the senior managers. Most of the conversations centred around the other administrative staff and the factory personnel. Their comments were often vicious and charged with personal feeling. Jane particularly disliked David Clark who she had at one time worked for; she had been moved,

to avoid further conflict between them. She referred to him as a "right little Hitler".

Affairs between participants in the setting were savoured; every aspect of the relationship and personal history of the people involved was examined, and judgement passed. "I dont' think it's right, what about the family?" or "I met his wife. She's a right cow. I don't blame him a bit". Over time, when Jane and Mary became familiar with my presence, and could rely on me not to 'blab' to the wrong people, I became a party to all their gossip, except those parts about me, of course! Although most of the gossip centred around the less savoury aspects of peoples' lives and events in the unit, Jane and Mary did have good things to say about the people as well.

Jane was in her late twenties; Mary was thirty five; both were very attractive. I was envied by the middle managers for having a desk between them. Many used to come in and flirt with them whilst waiting to see David Wright, Chris Davis or Lynne Carter (the personnel officer who shared the portacabin). The middle managers recognised Jane and Mary's access to information, they were regarded as working for influential and powerful people, and they continually prompted me to disclose all I had heard from them.

David Wright and David Clark emerged from the office. David Wright explained that he was up to his neck in the quarterly accounts, and Chris Davis was at the Injection Moulding Plant for the week. David Clark, who was referred to as David C. was to show me around and introduce me to the other managers. Feeling somewhat unwanted I gulped my coffee down and went on a tour of introduction. This was

an experience I was totally unprepared for, principally because of the way David C. introduced me.

> "Ah Cyril". He said. "This is Alistair Preston from Bath University", and turning to me "Alistair this is Cyril Jenkins, our Production Manager". We shook hands.
>
> "Pleased to meet you". I said.
>
> "Alistair was sent by Thomas Bart to sort out our information problems". Said David C.
>
> Cyril Jenkins looked somewhat amused. "Well, we could do with some help".

The responses from other managers were similar. They either said; "about time it was sorted out by somebody" or "well, best of luck to you".

David C. either interrupted people in their offices or we bumped into them in the corridors or on the shop floor. The managers were invariably busy and had no time to stop and chat. I tried to cover what David C. was saying about me, by replying that I was basically there to learn and help if I could. My assertions fell on deaf ears; it was a terrible way to meet anybody. I began to wonder whether David C. was doing it deliberately to embarrass me.

2.2. Lunch in the Canteen

The next incident worthy of note came at lunchtime. David C. and I called in on David Wright; primarily to ask where I was to eat. I was curious about the seriousness with which the two Davids discussed the issue. It was finally agreed that I should eat with David C. in

the middle managers' canteen, until Chris Davis returned and made the final decision. It transpired that there were four canteens each for a different group of people.

The canteens were housed in a low, square building at the far end of the factory. It was shared with Lansdown Paper, another R.T.G. Division. The kitchen was in the centre of the building with the four canteens surrounding it, one in each corner. One canteen was for factory workers; it had formica-topped tables and plastic seats. It was a paying canteen, specialising in sausage, beans and chips. Next there was the staff canteen; here there was a choice of two or three set lunches, again self service and paying, but with set tables and table cloths. The next canteen was for middle managers above grade 10 on the salary scale. Each manager had his own reserved position and a three-course, waitress served, meal. The food was similar to that in the staff canteen, but was free. Finally there was the senior managers' canteen, or more correctly restaurant. There was an elaborate table layout, and a separate menu which included fruit and cheese and biscuits to follow. Again this was all free.

When I considered the status implications of such a canteen layout, I understood the two Davids' dilemma. Later I considered my own position - how did the middle managers read my arrival in that canteen? I had already met most of the managers who were sitting on the same long table as myself. On one hand I was a twenty-four-year-old, motor cycle riding, university student, with no apparent status or position. On the other hand I was sent by Thomas Bart, the somewhat fearsome Financial Director to 'sort out' their information system. More significantly, I was given a place in the middle

managers' canteen; which was later ratified by Chris Davis, the newly appointed Operations Manager, who was still an enigma himself.

On reflection, it was apparant that the conversation over lunch had been stifled in the early days, largely because of the uncertainty surrounding my presence. I was not immediately aware of this; I had no past experience on which to judge my impact. I only realised the effect I had when the managers became less guarded about what they said in my presence. On the first day the conversation was fairly formal, asking me about Bath, and whether I played football or rugby. My acceptance in the setting would have been enhanced if I had replied "Yes", as it happened my "No" received a murmur of disappointment.

2.3. A Trip Around the Factory

After lunch I sat in the office to write my notes, a process I found laborious and tedious at first. With practice, writing field notes became easier, but never enjoyable. I wandered around the site in the afternoon. From the outside R.T.G. Plastics looked uninspiring. A small factory block, surrounded by a few outhouses and two porta-cabins used to house administrative and managerial staff. The managers directly involved in production, were housed in offices running the length of the factory block which opened directly on to the shop floor. The offices were aptly, if unimaginatively,called the 'rabbit warren'. The Departmental Production Managers were housed in a glass cabin in the middle of the shop floor, from which they could see most of the floor itself. The factory had a number of exits and entrances; I often found it difficult to orient myself, such was the complex nature of its design. Finding my way around proved an effort in itself.

Later that afternoon I was shown around the factory by Tom Jackson, the Quality Control Manager. The factory seemed to be an enormous collection of incredibly noisy machines, bunched as close together as possible. There was an air of untidy chaos about the place, with large pallets of plastic containers being stacked against the machines. Tom Jackson explained the production process to me, describing the various machines and their purpose. The noise blanketed out much of what Bob had to say, and his use of technical jargon compounded the problem.

It took me a number of weeks to become familiar with the factory layout, to be able to identify the various machines and to know what function they performed. Before I could do this I had to learn to speak to the managers. I had to learn a new sub-language; the language of the plastic container manufacturers. Tom Jackson referred to the machines with obvious familiarity: 'The Kaufman', 'The Bridge', 'RDMS', 'Rotoformers', 'Rollercutters', 'Waddingtons', 'the Van Dam Tub', 'the Van Dam Lid', and 'the Omso'. He referred to the materials as 'HIPS' (High Impact Polystyrene), and 'UPVC' (Unplasticised Polyvinyle Chlorine). He referred to the products as '8 oz circulars', '4 litre squares', 'seed trays', 'Ski Collations', 'R.T.G. ½ Gallon lids' and '500 grams circular'.

2.4 Meeting Others

For the remainder of that first week I sat in the office writing notes, reading books and chatting to Jane and Mary. I experienced long periods of boredom, thinking that I would be just as well off at the University. I did, however, feel that my presence in the setting was important. Even if I did nothing, I was at least visible. People would become

accustomed to my presence and I would become a familiar part of the setting.

An interesting conversation I had was with Peter Travers, the Assistant Marketing Manager. Peter sat opposite me at lunch.

"What is it you're here to research, Alistair?". He asked.

"I'm interested in the contribution approach", I replied. "How introducing this new system will affect human behaviour and vice versa."

"What do you mean by affecting human behaviour?". He asked.

I paused for a moment thinking of the best way to express it. "Well...basically how it affects the way managers make their decisions".

"Ah right". He said. "You know we use it for making our pricing decision".

"You do!" I said, somewhat surprised, after all the contribution approach was only just being introduced. "How exactly do you use it?".

"Why don't you drop into my office this afternoon, I'll explain to you there".

Peter Travers had initiated this conversation with me, but was quick to change subject when it became more involved. This was not because Peter did not wish to divulge any 'secrets' about the subject, but rather that it was taboo to discuss work at lunch. If a manager ever did introduce a work-related subject, it was invariably preceeded by an apology. "I'm sorry to talk shop, but". Such conversations

usually ended in the same way as Peter's and mine did, that is, by the arranging of a meeting after lunch. I did not learn this lesson immediately and had a few abortive conversations over lunch before I realised this implicit social rule.

Although I have no evidence for this other than my personal feelings, I most definitely got the impression that the managers were often embarrassed to talk to me, or discuss their work with me in front of their peers. I was an unknown entity and the managers were uncertain of me. I felt they did not wish to be seen to be associating with me, until they were more certain about my stance, my style, about my position and, above all, about my purpose.

Peter Travers was about my age and had been working for R.T.G. since he left school, first at R.T.G. Boxes and then R.T.G. Plastics. He had been a Sales Representative and was given this office job to help cope with the increased demand for the containers. The position, Assistant Marketing Manager, was specially created for him and this meant that he could break out of the company-wide salary structure. The Commercial Manager, Clive Jones, thought so highly of Peter, that he arranged this promotion to entice him off the road.

"Ah Alistair - sit down. I'll be with you in a moment". He said, greeting me on the way out of his office. He shared an office with John Stratford, the Marketing Manager, because they were so cramped for space in Sales.

"Now then, about this contribution approach". He said. "We use a principle called 'factor one pricing'. Have you come across it?"

"No I haven't. I've never heard of it". I replied.

"Well". He said. "We determine our prices on what the market will bear. We're a commercially centered business. A Rep comes in with a prospective new order and the price that the customer is willing to pay. We then calculate the factor price and if it's greater or equal to one we give the Rep the go-ahead".

"How do you calculate the factor price?" I asked.

"It's part of incremental costing". He replied. "We calculate the 'oops' or out of pocket expenses and add an agreed percentage for 'burden' and profit. We divide this by the proposed selling price, and calculate the factor; when they are equal, that is the 'factor one price'. That is the lowest we can sell for, and still meet our targets".

I realised that this was a slightly distorted contribution margin approach to pricing. "So if you are choosing between a number of products you choose the product with the highest factor?".

"That's partly right". He replied. "We also have to take into account the size of the order and the rate of production".

"Ah, yes". I commented. "In my language you'd be calculating total contribution as well as the contribution per hour, and then obviously trying to maximise it".

"Yes". He replied. "That's exactly it but here at Avon we call it factor pricing".

"I see. Do you ever accept orders below factor one?". I asked.

"Oh, yes!". He replied. "That's where our judgement comes in. If it is a new customer, or one of our competitors' customers, we might accept a below factor one price, just to get the new order. Then we can compete on quality and reliability and increase the price to factor one. Then,of course, if we've got spare or idle capacity, we might take a below factor one order".

"How long have you been using this method?". I asked.

"About a year now". He replied.

"A year!", I exclaimed. "I thought it was only just being introduced".

"No. We've been using it for a year, at least". He said.

I was a bit taken aback by this piece of information; I had planned to study the introduction of a new system for costing and pricing. If the system had already been in operation for a year that would upset my plans.

Later that day I spoke to David Wright and he confirmed Peter's statement. It transpired that R.T.G. Plastics at Avon had been used in the pilot study. After the one-year trial, the other divisions in the group were introducing the new approach. I began wondering why I was there. This brought into question the comments by David C. and David Wright about me sorting out their information system.

2.5. All is revealed

I had an appointment to see Chris Davis on Monday, the 11th, in the afternoon. We were introduced during the day, but I had to wait until almost 4 o'clock until I saw him formally. Jane and Mary assured me that he was a 'good bloke'. I was nevertheless anxious about the meeting; I felt that I would finally find out what I was there for, and I did.

"Alistair. Pleased to meet you at last". He said, greeting me. "I'm sorry to have kept you waiting. Take a seat".

"Oh! That's o.k. The place has to be kept going". I replied.

After the polite pleasantries Chris Davis got down to business.

"Arthur tells me that you are interested in information". He said.

"Yes. That's right". I replied.

"Any specific area?". He asked.

"At one time I was only interested in financial information". I replied. "Now I've widened my scope to include any type of management information. You see, my main emphasis is on the behavioural aspects of information, rather than on information per se". I paused and then added. "I had hoped to study the introduction of the contribution approach, which I though was happening right now but it seems I'm too late".

"Yes". He said. "John Sims volunteered Avon as guinea-pig, things are working out well though". Chris paused and, with a wry smile added. "I've got a proposition for you Alistair. As you know I've only been here for a few months. I'm still a new boy. My first priority is Production. We've got to move away from the crisis management situation we're now in. Production runs are being broken for rush orders, waste is unacceptably high and productivity is down. Before I can take measures to improve the situation, I've got to know, in detail, what is going on and that's where the problem is. What I see out there", he said, pointing to the factory block, "is a big fuzzy box, and I need detailed information to sharpen the image. My predecessor, made do with the information I now receive. God only knows how. What I get is always late; one form comes in on Tuesday, another on Friday; each form is different; nothing matches up and figures contradict each other. What this means is that I can't compile trends and I can't monitor improvement". He paused, thinking for a while.

"What I need is good, reliable production information, and as Operations Manager that's where I intend to make the first changes".

I began to realise why I was at Avon and why David Wright and David Clark referred to me as "The bloke from Bath University who was going to sort out their information problems for them". I had the distinct feeling I was going to receive an offer I could not refuse.

Chris Davis continued. "My first course of action is to set up a Working Party to examine the whole area of information coming out of the factory. If you think this would fit in with your research interests I would like you to be on that Working Party".

I thought for a while and then said, "in principle it seems fine. I hadn't thought of production information in terms of my research, but if that's where the changes are taking place, then that's where I should be. I don't know how much I could contribute though. I don't know the difference between a 'Waddington' and a 'Kaufman'.

"Neither do I, and that's why I want you there. The others who will probably be on the Working Party will have been here for years, they'll be set in their ways, they'll be used to the existing information. Now if you're there asking questions I think it might inspire them to look at it from a new angle. Improvements must be made immediately. Anyway, there is a meeting on the 15th to discuss this whole issue. Think it over, and let me know before the meeting".

I spent the next few days reviewing my position in the organisation. The proposition put to me by Chris Davis seemed to have all the necessary ingredients of an organization development investigation. I could conduct a 'before-and-after' study. I could interview

managers concerning their impression of the existing information. What purpose did it fulfil? What use was it for their decision making activities? How much of, and, how often did they use their information? What areas did they think needed improving? These interviews could be compared with subsequent interviews, after changes had been brought about. I could then try and match up changes in the production information with changes in peoples' perceptions and use of it.

There were a number of implications to my potential research: I would be a member of the change group, therefore I might become a change agent myself. This would be a reversion to my action researcher role, rather than my passive participant observer role. Would I just be Chris Davis' front man or agent, thus biasing the change to concur with his requirements? Would I be ostracised from the other members of the setting by associating too closely with Chris Davis, who was regarded with a certain awe? On the other hand by helping Chris Davis I might be given wider access to other areas of information. By being on the Working Party I would be able to view the change process, and the process of designing a new information system. I would be actively involved in a live project; managers would be obliged to consider this area of information if they had not been doing so already. Finally, was I prepared to risk my access to this setting and thus my data, by not complying with the wishes of one of the most influenital managers? Was I prepared to go back to square one and search for another setting?

I chose to stay, and accept the position as a member of the Working Party. I explained to Chris Davis that I still had reservations about my contribution, and to appease my conscience I asked for

permission to gather data from all sources, to have access to documents and to be able to interview other managers. After a moment's thought Chris Davis agreed in principle.

> "Yes that seems fair. You won't be able to attend our Senior Management Policy Meetings, but there's no reason why you shouldn't attend the Production and Planning Meetings; in fact I think it would be a good idea to do so. As long as the managers themselves don't object to you interviewing,I myself, have no objections. I personally can only give you access to production related information; if you want other types we will have to discuss that with the managers concerned."

I felt I had been conned. Chris Davis had agreed to my request, without any commitment on his part. It was not long before I realised just how persuasive Chris Davis could be.

2.6 Selecting a Working Party

Present at the meeting on the 15th September, called to discuss production control,were:

Chris Davis	-	Operations Manager
John Stratford	-	Marketing Manager
David Wright	-	Financial Manager
Cyril Jenkins	-	Production Manager
David Clark	-	Factory Accountant
Simon White	-	Works Study and Information Manager
Mike Sampey	-	Production Controller and Material Buyer

I had met all the managers present, and as there was no need for introduction, Chris Davis opened the meeting.

Chris Davis — The purpose of this meeting is to decide on a strategy, or course of action to improve production control...I think we are all agreed that there are problems in this area.

(There were murmurs of assent from all present. Chris Davis continued.)

To begin with, I propose that we first tidy up the information coming out of the factory, then we will be able to see where the problems lie. I would like to see a more co-ordinated set of production information, a system or a format that will bring together and correlate the various forms we now receive. What I have in mind is something along these lines.

(Chris Davis handed out a sheet of analysis paper to each of us outlining his proposal. He continued.)

This was jotted down in a few minutes off the top of my head, but will serve as a starting point for discussion.

(Each of us glanced at the document for a moment, then Chris Davis opened the meeting for discussion.)

David Wright — I don't mean to sound like a long playing record, but I feel that most of our control problems are to do with the use - or should I say misuse - of our Folio System on the Works Order Forms. Production runs are not being matched with the correct Folios. I've said this all before but I havn't seen any real improvements.

Cyril Jenkins — That's not strictly fair, David. The Supervisors and Charge Hands now know how to use the Folios

in the correct manner.

David Wright — Yes, but are they doing so? We're still getting as many mistakes.

Cyril Jenkins — We've only just introduced the new Works Order Forms, which you agreed with. The numbers produced are being recorded, so we should be able to match the run with the folio reference...But these will take time to work their way through the system.

David Wright — How accurate is the recording of numbers produced? We've come up against that problem over and over again, as well.

Cyril Jenkins — We recognise that accuracy's a problem, and we're taking steps to rectify it. We've increased supervision and we're investigating all irregularities. These problems can't be solved overnight.

(The conversation continued to swing between David Wright and Cyril Jenkins and it was obvious there was conflict between the two. Chris Davis finally interjected.)

Chris Davis — O.k. We know there are problems and we know we're taking steps to solve them. This meeting is not to allocate blame. We're here to decide on a strategy of improvement. Now can we return to the problem of information? If we can first find out where the problems are, we can take effective action and remedy them.

David Wright — We know where the problems are, and we know what action is needed. We have all the information we need to tell us this.

Chris Davis — You may have David. I don't!

(After a pause)

John Stratford — In terms of information, my major problem is to do with stock control. The information we receive from Accounts and Stores is contradictory. We can't rely on the stock balances we receive.

(This statement by John Stratford took the heat out of the moment. Chris Davis wrote down Stock Control.)

Chris Davis — Now we're getting somewhere. Any other areas with problems?

(David Wright,now somewhat subdued.)

David Wright — Materials. We've got a problem in the are of the 'materials issued' and the 'material used' figures; they never correspond; in effect we always under-recover on material.

(Chris Davis wrote down 'Materials'.)

Chris Davis — Anymore?

David Clark — Dispatches. There are still irregularities there.

David Wright — Yes. That's right!

Chris Davis — O.k., but that all comes under the problem of Stock Control.

The conversation then concentrated on Stock Control. There was another brief flare up between David Wright and Cyril Jenkins over Sean Davies, the Storeman. Chris Davis again had to interject to cool things down. After half an hours ' discussion Chris Davis turned the conversation round to his sheet. The ensuing discussion

centred around the what was meant by Planned Output. When Chris Davis explained Simon White thought there might be problems calculating such a figure.

Chris Davis — As I said, this was off the top of my head. Something we used at Cups. It might not work here. I don't think we will get much further today. However, before we adjourn I propose that we form a Working Party to examine the area of production information, material usage and stock control...agreed?

(There was a murmur of assent.)

Now who will be on the Working Party?

David Wright — I nominate David (Clark) here, or should I say volunteer.

Cyril Jenkins — Simon White, as Information Officer, is an obvious choice.

Chris Davis — O.k. Simon?

Simon White — Yes...Yes... That's O.k.

Mike Sampey — As Production Controller, this will be in my province. I nominate myself.

Chris David — And I nominate Alistair here.

All heads turned towards me. I got the distinct impression that nobody was expecting this and obviously wondered why I was selected by Chris Davis. As there were no objections, the meeting was closed with the agreement that the Working Party should meet on Wednesday,

the 20th September, and would report to Chris Davis as soon as some progress had been made.

This was the only occasion where everybody got together to discuss the problem of production information. From then on the Working Party reported directly to Chris Davis following each of it's meetings.

The conflict between Cyril Jenkins and David Wright became more apparent as time went by. After the meeting David Wright asked me what I thought of his 'aggessive style'; implying that there really was no hard feelings between Cyril and himself. However, David frequently referred to Cyril Jenkins' age and inexperience. Cyril Jenkins, who never became an informant of mine, rarely mentioned David Wright or any conflict between them. He was invariably on the defensive against David's aggressive attacks.

Cyril Jenkins was a tall, extremely handsome man who had been Assistant Production Manager at R.T.G. Bags. He was one of the bright young boys, drafted into the Plastics Division. He seemed to find the additional responsiblity and authority associated with the full Production Manager's function onerous. Few of the managers on the shop floor respected Cyril and referred to him - once they got to know me better - in derogatory terms. Chris Davis referred to Cyril Jenkins' inability to delegate responsibility as one of his major short-comings as a Production Manager.

Prior to the first meeting of the Working Party two incidents caught my attention. Firstly, Clive Jones, the flamboyant, cigar smoking, golf-playing, Don Juan of a Commercial Manager stopped David C. and myself in the corridor.

"Ah, you're the two who are dealing with our stock control problems are you. Jolly good. Drop in and see me sometime, I'll tell you what's needed."

We never did 'drop in to see him', but it was interesting to note how Clive Jones, who must have been informed by John Stratford, defined the purpose of the Working Party. Peter Travers, again from Sales and Marketing, made similar observations over lunch.

Secondly, David Wright called David C. and myself into his office to discuss what he as Financial Manager would want to see on a Production Information Sheet. He presented me with a copy of a Memo he had sent to Chris Davis. Although the Memo had a general introduction, it was essentially to draw attention to David Wright's information requirements on stock and materials. It made the same points he subsequently made at Friday's meeting.

He then produced a copy of a schematic diagram and some forms which he described as his bid for a system of material control. At the time neither of these documents meant much to me; the language was alien, and the history surrounding the documents was unknown to me.

"This is the information I need to calculate the material recoveries each month, which incidently are then sent to Lansdown Street", David Wright explained.

"What's Lansdown Street?", I asked.

"You've been there, haven't you? It's Headquarters". He replied.

"Oh yes". I said. "I wasn't thinking", and added, "What is a

'pallet load docket?". A phrase used on his memo to Chris Davis.

"Each time a pallet is completed and ready for Stores a pallet load docket is attached, stating the customer and quantity of goods. This is then used in Stores to calculate the goods sent to Stores figure for stock control". He replied.

"Right...but why do you want a copy of it?" I asked.

"This is another real problem area in the factory". He replied. "It's nearly as bad as the folio problem. Pallets sometimes go through Stores without being recorded, which messes up the stock balance. If we have a copy of all pallet load dockets and a copy of all dispatch notes, we can keep our own stock check. This will be a damn sight more accurate for calculating recoveries than the one we receive from Stores. But...before we start this we need a complete stock check, which is difficult to arrange. We have no Store of our own, and so farm out our stores to outside warehouses".

I had many other questions about the meaning of words appearing in the documents, such as 'virgin', 'regrind', 'the reel store' etc. but I felt that the two Davids were becoming impatient with what must have appeared to be my naive questions. David Wright finished the meetings with the suggestions that David C. knew what was needed.

Although David Wright carried the title of Financial Manager he seemed to be concerned more with his purely accounting and reporting functions than with the financial control or management information roles, as described by Charles Anderson at the Conference. David Wright seemed particularly concerned with his recoveries and preparing information for Lansdown Street. This somewhat narrow view of his role was largely responsible for his transfer to Lansdown Street at Christmas. His

replacement was Ian Harrison, a much younger Chartered Accountant, who fitted in more with the new Plastic's image.

Later that day I met Chris Davis, and mentioned David Wright's stock and material control recommendations. His reaction was:

> "That's exactly what I'm trying to avoid; more ad hoc additions to the production information. That might be what David Wright needs, but in that form it will be of little use to anybody else. If we're going to make improvements, it must be a concerted, co-ordinated effort, and not simply adding a bit here and adding a bit there".

2.7. Designing a Production Information System

The Working Party convened on the 20th September: Mike Sampey, the chairman, was absent and, in fact, never turned up to a single meeting. When I commented on this to Simon White (who assumed the role of chairman) and David C., they chimed, in chorus, "Oh, he's too busy". I got the same response from Make Sampey himself whenever I wanted to interview him; "Not just now, Alistair, I'm too busy". Charlie Johnson, a Departmental Production Manager, who was to become a key informant of mine, had dubbed him, 'Mike (I'm too busy) Sampey'.

Discussion in the early days of the Working Party was concerned mainly with the terminology on Chris Davis' sample sheet.

David Clark — What does he mean by estimated output, planned output and planned run hours?...Is there any difference between them?

Simon White — Who knows, maybe estimated output comes from our estimates; the estimated output per hour times

the size of the order. Planned output presumably comes from the production plan, such as it is.

Alistair — Surely those must be the same?

Simon White — I suppose they must.

Alistair — Chris did say these were off the top of his head so we don't have to stick to them.

Throughout our discussions Simon White and David Clark continually referred to what Chris Davis wanted, and what he meant by the various terminology. They both seemed reluctant to question Chris Davis' suggestions. I asked whether we should be asking questions such as:

1. What does the information mean?
2. Who provides the information?
3. Who does it go to?
4. What is it used for?
5. What decisions or action does it lead to?

They both agreed with and then completely ignored my comments. I increasingly felt that my role on the Working Party was superfluous. Rather than contributing to the work I tended to hold up the proceedings to seek points of information or clarification.

"What is the Machine Production Chart?"
"Who fills it in?"
"What do you mean by non-productive time?"

Each of these, and many more questions often required lengthy explanation, usually furnished by Simon White. Simon had been

with R.T.G. since leaving school, first at R.T.G. Boxes and then for the past eleven years at Avon. His knowledge of the production process was extensive. He was responsible for preparing much of the existing production information, and for calculating the Operator's work-related bonuses.

Simon White was always tolerant with me, but I felt he often became frustrated with my presence. He had to deal with me in my infancy; when I was still learning the language. My naive questions, and often meaningless suggestions held up proceeedings. However, Simon's replies were invaluable to me, in that they helped speed up my learning about the production process and the language of plastics. In the long run Simon White had little time for me. I assumed he questioned the relevance of my research, when it appeared that I knew so little about production information and nothing about manufacturing plastic containers.

After two meetings of the Working Party, with little or no evidence of progress, we arranged to meet with Chris Davis. On Simon White's recommendation we decided that Chris Davis' sample sheet should be separated into three areas:

1. Production
2. Stocks
3. Materials

We decided to tackle production as a group. I volunteered to produce a brief report on stock control, and Simon White was to produce a report on materials. This policy was intended to speed up the

process of designing a comprehensive system covering the above three areas. In terms of production the main problem was the 'planned' and 'estimated output' columns. Firstly, we did not know what Chris Davis meant by these phrases. Secondly, little or no planning took place in the factory at that time. And finally, certain machines ran on three shifts whilst others ran on two; these changed from week to week depending on the products being produced, making a machine-by-machine plan impossible.

Simon White — The best we can come up with is to fill in planned hours, after the run; this means it will be retrospective. However, it will be calculated on the estimated running speed.

Chris Davis — (looking somewhat puzzled). I see the problem. I don't like the idea of retrospective planning, but in order not to hold up progress I will accept it, but it will have to be a stop-gap measure, until we develop our production planning.

Simon White — Yes. O.K.

Chris Davis — I don't want you to get too bogged down in terminology. I personally don't mind what you call the headings as long as you tell me what they mean. What I want at the moment is an accurate, timely and unified production information sheet. That must be your first priority.

At the end of the meeting Chris Davis handed another analysis sheet in which he outlined a few more ideas 'off the top of his head.' This was the pattern that evolved. We, on the Working Party, would examine a number of issues, produce a series of suggestions and

submit these to Chris Davis. He would either accept one alternative, or provide his own solution. At the end of such meetings Chris Davis would then offer further ideas for our consideration.

Finally, through this process of gradual development and acceptance, a final format for production information was produced. Simon White had included the previous week's figures to test the workability of the format. After some discussion about the meaning of 'downtime', Chris Davis approved of the format and called for a full meeting of those involved for the 20th October.

The final meeting was remarkably peaceful: David Wright once again chipped in with:

David Wright — This is O.K....as far as it goes: it doesn't tell us anything about materials or stock.

Chris Davis — No. That's true, (turning to Simon White). David is looking into materials and Alistair is looking into stock control for us, and they will be reporting on them shortly.

After the now so familiar discussion over terminology the format was, in essence,accepted. The two remaining questions were; who was going to compile the information? and how often and when was it to be prepared? It was agreed that the information was to be prepared weekly and distributed on Tuesdays. Simon White was "volunteered" to produce it, and he accepted, after it was agreed that David Clark, in Accounts, handled some of his existing workload.

I was surprised how little effort was needed to reach agreement in

this meeting. I later found that David C. had continually informed David Wright about developments on the Working Party. Simon White had performed the same role for Cyril Jenkins. In other words, except for some minor reservations, members of the meeting were all aware of our work and agreed on the outcome and all had already seen the final format.

After this meeting the Working Party dissolved. I produced a report on finished goods stock control. Chris Davis approved of the report and commissioned me to conduct a more detailed investigation, which included examining the feasibility of computerising the system. I was slightly concerned; not only had I become a change agent on the Working Party but I was now offered the role of paid consultant.

I chose to accept Chris Davis' offer, not least because of the two hundred and fifty pounds fee. Conducting this investigation put the finishing touches to my education in plastic container manufacturing and its language. By the time I had completed the report (in mid-February), I was fully conversant with the production process and the product range; I could enter into conversations without making myself conspicuous through continual interruptions. I now knew all the managers, supervisors and many production workers by name, and could converse at will with most of them. My presence was so familiar that I no longer needed to explain it, or my purpose.

2.8 Gathering Data

Apart from my activities on the Working Party and my commissioned work on finished goods stock control, I occupied my time by attending the weekly planning meeting, the weekly production meeting,

socially interacting with managers and interviewing some of them using a tape recorder.

The members of the Planning Meeting were: Martin Keyes, the Production Planner, Cyril Jenkins, Peter Travers, John Stratford and the Account Executives, James Alton and Bert Simons. The Planning Meeting was held on Tuesday morning in the sales conference room. This venue was interesting in itself: I imagined that Martin Keyes would chair the meeting, however Peter Travers invariably took the reins. Over time it became apparent that the Planning Meeting was used as an opportunity for the Sales Staff to list their customer priorities in terms of urgency, then elicit assurancesfrom Martin Keyes and Cyril Jenkins, whenever possible, that the goods would be available for dispatch on the required date. The following are a number of extracts from the Planning Meetings.

Peter Travers	Express tubs and lids. I'm a bit worried about the lids. We've promised them some lids by mid-November, with the vinaigrette design... We don't have any lids in stock as it is a new print design.
Cyril Jenkins	We must not let Express down this time.
Peter Travers	No! They're using this as a test for us. So what's the position? We have three weeks to dispatch.
Martin Keyes	I should rate this as an outsider. We've got priorities on the Bridge.
Cyril Jenkins	And we've said good bye to the Kaufman. It's still in pieces.

Sales knew about this but they still shook their heads in disgust. My field notes are an endless record of such discussions. The meeting was also used by Sales to question events taking place on the shop floor.

John Stratford	Can Windsor lids be fitted in between Danish Turnkey and Melba?
Martin Keyes	No. The schedule is too tight already.
Peter Travers	What's the shift pattern on Waddington 1?
Martin Keyes	Double.
Peter Travers	Could we make it treble?
Martin Keys	No! Pete Smith has migraine. He won't do treble shift.
Peter Travers	Isn't there anybody else?
Martin Keyes	No.
Peter Travers	Great! We get a bottle neck and probably loose the order because Pete Smith has migraine.
Martin Keyes	Well it's not my fault.

On the first of November Martin Keyes was transferred to the job of Assistant Material Buyer and Jim Brown, the Assistant Quality Control Manager, was appointed Production Planner. I asked Peter Travers, who was now a friend of mine, what he thought of the changes.

> "To be honest with you Alistair, it's about time. Martin was never a planner....If there was any planning done, it

was done from over here and that was all back to the wall stuff."

"That's definitely the impression I get from my notes." I said.

"Do you know the story of Martin?" He asked.

"No." I replied.

"Well." He said. "Three years ago he was a machine operator on the R.D.M.s, a bloody good one as well, from what I hear. He got a lung infection and claimed it was the fumes from the factory. Well after some wrangling it was agreed he should be given an office job; so he became Planner."

"Planner! Why Planner? That's a bit of a jump isn't it?" I commented.

"That's what I think; shows you how much Mike Peters thought of planning when he was General Manager. He was more interested in running his pub."

"Yes. I heard about that." I said.

"Now, Jim." He said. "Well he's different. I think he'll go a long way to improve planning. He's a bright boy."

I already knew that Peter Travers had been instrumental in Jim's promotion but thought it best not to mention it.

Jim's appointment transformed the Planning Meeting.

Peter Travers — Melba lids. When will they be printed?

Jim Brown — They'll be in tomorrow...middle way through the morning shift, twenty-four hour run...should be

ready Thursday midday. You realise the delivery dates come forward on that.

(There was clapping all round.)

Peter Travers — Alistair. Put that down in your notes; it's the first time that's ever happened.

(Later in the same meeting.)

Jim Brown — R.D.M.s...there's nothing booked in for December on 4 and 5.

Peter Travers — Bert. What about Peerless?

Bert Simons — The whole situation is hairy. They've slowed down; it's this metrication problem; there's talk that they may change the design altogether.

Peter Travers — So you don't want to build stocks.

Bert Simons — Not until I hear something more definite; we've got enough to the year-end in any case.

Jim Brown — Well that's your problem boys. You give me the orders and I'll run them.

Peter Travers — Well it's looking bloody good, it looks like it's our problem to fill the machines, instead of the other way round.

John Stratford — That's how it should be.

Peter Travers — I couldn't agree more.

By January Jim Brown had developed a three month plan for Rollercutting Formers and was working on the Extruders.

Jim Brown — Any questions?

James Alton — What about the Extruders?

Jim Brown — Well...things are a bit clearer. We're seeing some common sense in this area. However... we're still very busy, so we've got to treat it with respect and caution. You buggers have to get your extrusion requistions in earlier!

Jim Brown had taken over the Planning Meeting, which then gradually faded out. As Peter Travers said, "there's no need for it any longer. We just have to look at Jim's Board."

The members of the Production Meeting, held on Monday mornings in Cyril Jenkin's office, were: Mike Shilling and Charlie Johnson, the Departmental Production Managers, Tim Steed, the Maintenance Foreman, Ron Welch, the Tool Engineer, Martin Keyes, Mike Sampey, Simon White and various shift supervisors. In November, Jim Brown replaced Martin Keyes.

If the Planning Meeting could be described as being for crises over customer deliveries, the Production Meeting was for crises over making the products. The three areas that discussion invariably centred round were:

1. Mechanical breakdowns.
2. Personnel problems, including absenteeism and lateness.
3. Space restrictions.

The following are extracts from the Production Meeting:

Martin Keyes — Peter Travers said that Country Kitchen are shouting

for deliveries.

Cyril Jenkins — That's Waddington 1. How is that going, Tim?

Tim Steed — The shaft should be here at lunch; then it has to be drilled and assembled.

Cyril Jenkins — I thought we had some breathing space on the Waddies. Now all of a sudden we're under pressure again.

Martin Keyes — We would have been O.K. if we didn't have this problem on 1.

Cyril Jenkins — How much time have we lost?

Martin Keyes — About a week to ten days.

* * *

Mike Shilling — We're still tight on Rotoforms, we have to keep bashing away.

Cyril Jenkins — Is the R.D.H. running again?

Mike Shilling — It ran well over the weekend. There's still oil leaks though.

Cyril Jenkins — Tim. Have you got the new seals?

Tim Steed — Yes. But it'll take me a good shift to get them in.

Cyril Jenkins — Mike...when can he have it?

Mike Shilling — We can't afford to have it down.

Cyril Jenkins — What about the weekend?

Mike Shilling — Too tight.

Cyril Jenkins — Well, you and Tim get together and find a time. It's got to be done quickly.

Mike Shilling — It's all very well saying that!

Cyril Jenkins — I know, Mike.

There was continual conflict between Mike Shilling and Cyril Jenkins which tended to frustrate progress. Cyril Jenkins often advised two parties to get together later, when a decision couldn't be made during the meeting. Because of this Mike Shilling criticised the meeting. "It's just a talking shop; nothing ever gets done."

* * *

Jim Brown — I want to run mini seed trays but I hear there's some query on space.

Cyril Jenkins — It's over to you Mike.

Mike Shilling — It's utter chaos out there. It's the sheer volume of fibre pots.

Cyril Jenkins — You Mike, and Peter Travers should get together over this; see if you can find an outside store.

Mike Shilling — I'm sorry, but the goods must stay in the factory. They're no good at Queen's Road, we can't cope.

Jim Brown — There's going to be more congestion in January. We've got one hundred and fifty thousand to make then.

Mike Shilling — We've never had enough space to store goods for

the roller cutters. This site is just not equipped for this job.

Cyril Jenkins Could we do the packing off site?....Would that help?

Mike Shilling It would help.

(And at another meeting)

Cyril Jenkins Any other business. Mike?

(Mike consults his list.)

Mike Shilling Lates. Any developments?

Cyril Jenkins Developments?

Mike Shilling Yes, the meeting on the 8th December.

Cyril Jenkins Ah yes, about the ruling. I haven't heard from John Sims. I'll look into it.

Mike Shilling We need that ruling. Lates are my biggest problem.

Cyril Jenkins Anything else.

Mike Shilling Yes. The lack of Production Controller here at this meeting.

Cyril Jenkins How come?

Mike Shilling I think the Production Controller should be at the meeting and know something about what's going on in Production.

Cyril Jenkins Well, Mike's just come back from holiday. He has delegated controllership to Jim. However,

I agree with your general comment. The Production Controller should know what's going on.

Charlie Johnson He's too busy.

(Roars of laughter all round, except from Cyril Jenkins who only managed a smirk.)

In the above excerpts Mike Shilling is a dominant voice; this was deliberate. Mike Shilling occupied most of the time each meeting. Charlie Johnson, the other Departmental Manager, and most of the other people, rarely commented unless specifically asked to.

Early in the New Year, owing to Jim Brown's plan, maintenance was carried out on a regular planned basis. Nigel Plant was appointed Maintenance Manager, directly under Chris Davis, and he was instrumental in improving the efficiency of the machines through a policy of overhauling each machine according to an agreed plan. A third extruding machine was purchased and installed which alleviated the bottleneck in this area. Towards the end of March 1979, the Production Meetings were considerably shorter, simply because less immediate problems existed. There was an identifiable and recognised improvement in performance.

2.9 Reaction to Me

Initially, I found most of the managers reserved towards me. At lunch the conversation was guarded; sensitive topics, which later became a feature of lunchtime conversations, were suppressed. During meetings where I took notes, the people speaking would invariably look towards me after they had finished. I was never quite sure

what they were thinking. Were they seeking my approval? Were they seeking acknowledgement that I had captured their gem, or were they hoping I had failed to write down their comments? Gradually I became less obtrusive at lunch and at the meetings. Managers would bring me into conversations at lunch even those which might be termed 'sensitive'. At the Production Meeting, Mike Shilling once asked me to verify a point he made at the last meeting, by asking me to refer to my minutes of the meeting; this was how most had come to define my presence and purpose in such meetings.

My first report on stock was invaluable to me as a means of making contact with the managers directly concerned with production. Most managers had a vested interest in the measurement of total goods produced, the area in which most of the stock control problems arose. By approaching the managers with the script of helping improve stock control I was made more welcome. I had, up until then, found contact difficult with my general, academic researcher script. In one particular instance David C. came to me with the rumour that Mike Shilling was going to refuse to be interviewed by me:

> "Do you hope to interview every manager?" David C. asked.
>
> "Yes, well at least every manager concerned with production." I replied.
>
> "What if one refuses?" He asked.
>
> "That's my tough luck." I replied. "It's all voluntary." It struck me as being a strange conversation and so I asked, "Why do you ask; is somebody going to refuse?"
>
> "I heard that somebody might." He replied.

"Who is that?" I asked.

"Ah, it's only a rumour." He replied.

"Oh! I think I know who it is." I retorted.

By this time David C. and I were considerably less friendly. David seemed to resent my position on the Working Party, and especially my access to Chris Davis. I have no evidence for this, but I felt that my association with Chris Davis was a major cause for the other managers'initial reserve towards me.

Mike Shilling did eventually consent to be interviewed by me and produced some interesting material. However,he never totally accepted my presence; rather he tolerated my being there when I proved to be no threat to him.

Simon White was another who tolerated me, but never really accepted me during my stay. He seemed to be embarrassed by his close association with me on the Working Party. If I asked a question at lunch, even concerning the scheduling of our next meeting, I would receive only a minimal reply.

Peter Travers was the first manager to exhibit any friendliness towards me. He gradually began including me in conversations during lunch. At first they were of a formal nature, about Bath University or R.T.G. but gradully less formal topics became the order. Towards Christmas I arrived at lunch, on a number of occasions, suffering from the previous night's entertainment, and was greeted with comments such as:

"You look bloody terrible."

"It's all these Christmas parties. I didn't get to bed until three this morning." I replied.

"Alone?" He asked.

"Well not quite." I replied.

"Ah to be young again." He said.

"I'm only a year younger than you." I replied.

"Yes but you dont' have a wife; that's what ages you." He replied.

Peter then invited me to the pub on Friday lunchtime; he, Jim Brown and some of the Account Executives frequented the Lion on Fridays. The conversation was strictly non-work related; other than that, it covered a wide range of topics.

"Are you still riding that bike of yours?", asked Tim.

"Yep, it's getting a bit cold though, I might take you up on that offer of a lift soon." I replied.

"I thought the elastic band would have perished in this weather".Said Peter.

"Bloody cheek! My Honda would outstrip that leaky old Norton of yours." I replied.

"Huh! Calling your Honda a motor bike is like calling an instamatic a camera."

Jim Brown lived in Bath. It transpired that his local was a rival

"real ale" pub to mine. We continually ribbed each other about the relative merits of the 'Rose and Crown' and the 'King William'. Occasionally we visited each others' pubs to confirm our suspicions.

Although such conversations provided little data on information per se, they were an important part in the process of my being accepted in the setting; at least by some of the middle managers.

Social contact did provide me with a great deal of information relating to events taking place within the factory, and about the personal lives and characteristics of the individual members. Mary and Jane were my greatest source. However, Peter Travers embellished our talks with accounts of events such as Martin Keyes' promotion to Production Planner (see page 47) as did many other managers, especially Charlie Johnson, who became a key informant of mine.

Charlie Johnson was a short, stocky, West Country man, with white hair and a magnificant moustache. He was respected by the shop floor workers, his supervisors, peers and senior management; he was a formidable adversary. At first Charlie was somewhat reserved towards me until I had to sit at his table at lunch to make room for Peter Travers' visitor.

I knew what was coming when Charlie asked:

"Do you mind me asking how old you are?"

"No. I'm twenty four." I replied.

(The next question was inevitable.) "Have you ever had

a real job? I mean, where you earned your living, or have you always been a student?"

"Well." I replied. "When I left School I worked as a cutterman in a paper mill for a year. I've worked in Airsprung at Trowbridge and Frys at Keynsham but they were really just Summer jobs. I worked as a porter in a hospital for eight months; that was to save money for my trip to America. I used to have to do mortuary duty on the night shift putting the bodies away."

"America. How long were you in America?"

"Five months. That was my great adventure when I graduated."

"I'm planning to go to America when I retire...next year, in fact, Which parts did you visit?"

"Well I hitchhiked about fifteen thousand miles all told, from New York to Seattle, then to San Francisco, Dallas, Chicago, back to New York, Boston and then up to Toronto in Canada."

"You hitched?" He asked.

"Yep. I spent ten dollars on transport the whole time I was there." I replied.

The conversation carried on from there. Charlie became a great source of data to me, inviting me into his office; describing events in his typically colourful language. I couldn't help wondering how things would have turned out if I had answered his initial question any differently; for instance if I had been aggressive and said:

"Why do you want to know how old I am anyway?"

The information I received from the various managers differed. Charlie Johnson tended to concentrate on events in the factory. Mike Shilling continually informed me of his pet gripes which mainly centred around Cyril Jenkins. David Clark restricted his conversation to explaining various forms and documents to me. Only Jim Brown, Peter Travers, Nigel Plant and, of course, Mary and Jane fully opened up to me.

As people became more certain of my purpose and presence in the factory they began calling on me to reciprocate in our social interaction. Now,not only did they inform me of events, they, in turn, expected me to inform them. This conversation took place at lunch:

Tom Jackson	Come on Alistair, you sit beside Mary. Who's the new Personnel Officer going to be?
Alistair	I reckon it's going to be Lynne Carter from Boxes.
David C.	You reckon or you know?
Alistair	Well it would seem the obvious choice. Lynne Carter was at Cups with Chris Davis, and Mrs Hyde is moving to Boxes and that's where Lynne Carter is at the moment, so I reckon it'll be her.
Peter Travers	I hope so!

There was agreement all round. Lynne Carter was appointed; I knew for certain that she was going to be but still wished to cover myself. The reason why everybody hoped Lynne would be appointed was because she

was an extremely attractive woman.

I was nervous of this transition, but could do little about it if I desired to interact further with other managers. In the above conversation I was called upon to provide information. Later, however, I found that I volunteered information. On one occasion I visited James Cook (who will be mentioned later) in Lansdown Road and he explained R.T.G.'s new salary structure which was going to be made public the following week. On my return to Avon I mentioned that I had heard about the new salary structure, and went on to explain it in detail.

Just as the type of information passed on to me differed from each manager, I found that I was selective about who I passed information on to. I was willing to tell all the middle managers about the salary structure, but was only willing to tell Jim, Peter, Nigel, Mary and Jane about seeing Chris Davis - a married man - with Carla Hutchinson, the new Personnel Assistant, holding hands in Bath on Saturday afternoon.

I conducted interviews throughout my stay in the factory, both with and without tape recordings. Some interviews were short; concerning specific events or incidents which had come to my attention, and which I wished to know more about. To distinguish these from the more arranged interviews, I describe them as 'talks with Peter Travers' etc. An example of such a talk is that concerning "factor one" pricing on page 26.

I conducted two main blocks of interviews; one in February/March

just prior to the introduction of the new Production Information System; the second in early July, this being three months after the new system's introduction. Throughout my stay I carried out almost random interviews, using tape, with those managers willing to spare the time. I found it required considerable effort to arrange an interview with any manager. They were obviously regarded as of secondary importance to their day-to-day activities. I encountered a frustrating number of cancellations, particularly when I could not present a specific topic to be discussed. Most of the managers accepted the logic of my before-and-after study of the information system and complied with my request for an interview; hence the concentration of interviews in February/March and July.

The data gathered from these interviews were more specifically related to information than informal social interaction. This being the case, the content of these interviews will serve to illustrate ideas, observations and conclusions in the next two chapters rather than being listed here.

Some interesting facets of the setting were uncovered by the use or proposed use of taped interviews. No individual actually refused to be interviewed in this manner; however, at the end of my field work I realised that certain managers had never been taped. In the case of Chris Davis I genuinely believe he was too busy to find a convenient time, as he had to share his time between Avon and The Injection Moulding Plant. Mike Sampey was simply always too busy and after a few attempts to pin him down to a time I gave up. Martin Keyes exhibited fear each time I mentioned the tape recorder; although

he agreed to be interviewed I could not bring myself to subject him to what would be a highly stressful situation. I received most cancellations from Cyril Jenkins. Finally he concluded that he had already given all his views on information through our contact over the stock control report, and that an interview would simply re-iterate them. David C. argued that he would have to conduct any interview at his desk in order to have access to his documentation. His desk was in a room shared with others; this made the use of a tape recorder impossible.

Mike Shilling, who initially refused to be interviewed, finally consented and provided me with some interesting data. Charlie Johnson was always accompanied with one of his supervisors, and seemed thoroughly to enjoy the interviews. On his third occasion, he introduced Peter Short, one of his supervisors, by saying:

> "It's all highly confidential so you're quite free to say anything you want. It's on tape but there's no one else going to hear it. So he tells us, anyway!"

When he mentioned anything controversial he invariably said, "Oh God! That things not on is it?", knowing perfectly well that it was. I suspected that Charlie treated the whole process as a slightly daring game.

My other interviews were with Simon White, Jim Brown, Peter Travers David Wright and Robin Slater. Except for Simon White and David Wright, the rest were willing to be interviewed on more than one occasion. They seemed to become more relaxed with each interview. Throughout the taped interviews names were never named, phrases

such as "not naming names," "keeping names out of it" or "leaving personalities aside" were continually used. This was not the case in untaped informal talks. When I heard such phrases in the interviews I simply pushed the pause button and said, "Do you mean David Clark?" or whoever I suspected. The interviewee would invariably confirm my suspicion or correct me if I were wrong.

I always commenced an interview by asking a number of specific questions, to set the topic of the discussion. This procedure in some cases did not work. On one occasion, when trying to discuss the new information system, Charlie had other ideas.

Alistair	I want to ask some questions about the new information system.
Charlie Johnson	Are you talking about the incentive schemes now?
Alistair	No...you know that computerised system.
Charlie Johnson	Oh! The print-out thing?

Within ten minutes we were discussing incentive schemes and remained on that topic for the duration of the interview.

Apart from the initial questions, the interviews were unstructured. Although I endeavoured to keep them within the broad confines of information related topics, they did tend to flow in an unstructured but interesting way. They were similar to a normal conversation, centering around some fairly general topic.

I found the interviews provoking in that they often referred to events and processes in the factory that I had not been aware of, which I could subsequently observe happening. In reverse I could confirm my observations and my interpretations of them, during the interview, by saying such things as "the way I see it is..." and so forth.

I felt guilty that I was less persistent with certain managers in getting them on tape than I might have been. There was, however, always the risk of outstaying my welcome or becoming an irritant, a social itch, which the managers wished they could scratch and I would go away. I put a high value on my not being a nuisance and I felt this paid off in the long term, permitting me to stay in the factory for just under a year without any significant social hassles, official complaints or warnings.

I felt that during my interviews I sometimes contaminated replies with the lanaguage I used in questions. For example, 'feedback', 'evaluating performance' and 'control documents', were my phrases which were adopted by most managers during my stay in the factory. Although my language contaminated my data I was more concerned that my ideas did not. However,because of my work on the Working Party I felt that some level of contamination was unavoidable. I felt it was important to be aware of it taking place, and then to be honest in evaluating its significance, if necessary omitting sections that were deliberately contrived to prove my point. Fortunately the managers knew me well enough, and were themselves strong enough, to contradict me if they disagreed with any point I made.

2.10 Computerising the Production Information

In January, David Clark, Simon White and I were called to a meeting with Chris Davis. Present at the meeting was James Cook, a stranger to all of us. He was attached to the Computer Service Department at Lansdown Street. James Cook headed a specialist section of the Computer Service Department called MADCAP (Management Action Data Computer Analysis Program).[1] James Cook described the system as a tool for the general manager concerned with controlling resource utilisation and progress towards objectives.

After the preliminary introduction, James Cook examined the system we had designed and, after a brief discussion of terminology, he concluded that MADCAP could handle such a system with ease. He insisted that Simon White and David Clark go on a MADCAP course and be directly involved in programming the data.

This process of computerising the Production Information continued throughout January, February and early March. Simon White was responsible for most of the work; I adopted an observer role, little involved with the mechanics. By mid-March the test runs were over and the system was ready for weekly computerisation. Not only was the new information collected and prepared in a systematic manner, it was also successfully processed by computer, thus allaying fears of excessive workloads.

I visited James Cook in Bristol on one occasion to discuss the MADCAP Program. I gathered some highly revealing information:

"When were you called in on the Avon Project?" I asked.

"Right at the beginning." He said.

I didn't quite know what he meant by this and said. "You mean at the beginning of the computerisation?"

"No. I mean at the beginning. Back in September I think."

"So Chris knew about MADCAP in September?"

"I bloody well hope so! He helped design the program. He was my assistant before he went to Cups...He used MADCAP at Cups."

"So he was in contact with you all along?"

"I was staying with him in September after my separation."

I could not believe what I was hearing. James Cook found it amusing. From the very outset Chris Davis had it in mind to use MADCAP. The ideas he had fed us with during the initial design, were not simply off the top of his head, but rather, were ideas that would comply with the MADCAP program.

Chris Davis admitted that he was aware of the final design but did not know, with his limited experience, whether the program was feasible in Avon, without significant internal changes. He further added, "committment by the people in the organisation is important. This is why James insists that the managers design their own system and then program it."

Although I do not think that Chris Davis was totally selfish in the design of the system, there was little doubt that we had designed an information system which largely conformed to his requirements, rather

than specifically with the managers directly involved with day to day production matters.

2.11 Summary

In this chapter I have outlined selected experiences in the early days of my research, including the various managers' reaction to me and the development of contacts with certain managers who became my friends and key informants. I further explain my "choice" of a research topic and my involvement on the Working Party set up to design a production information system.

In addition to my involvement on the Working Party, I gathered data through observation, informal chats, taped interviews and through attending the production and planning meetings.

NOTES

1. See Appendix 3

CHAPTER 3

INTERIM ASSESSMENT

By mid-July I had been in the factory for nine months; six months longer than I had intended. I now viewed my research as an in depth, longitudinal study. I felt that, apart from the work with the Working Party, the first three months had been simply a process of settling in. The data I gathered after that three-month period was qualitatively different from that during the period. Some managers were more open, their descriptions of events more colourful and their opinions of other managers more forthcoming. On the other hand, other managers, notable David Clark, Simon White and Kevin Linsey, the Plastics Technologist, had as little to do with me as possible.

By early February I felt I had become a pseudo-member of the setting. I was sufficiently familiar with the workings of the factory, and sufficiently informed about current or recent events to talk shop in a competent manner. I was 'well up' on current gossip and could contribute unknown events to the managers in our social interactions. I had become a familiar face on the shop floor, in managers' offices, in the canteen at lunchtime and at the production meetings. Finally I had excellent rapport with three of the four key middle managers at production level, and a tolerable relationship with Mike Shilling the other departmental manager.

By July I was ready to pull together data from my observations, social interactions, talks and interviews to prepare an interim analysis and some tentative conclusions. It would be untrue to claim that I sat

down and immersed myself in the data; waiting for a theory to emerge. With each observation, talk or interview I would consider the data I had gathered; I would consider whether it contradicted previous observations or complied with them; I would also reflect on how such a piece of data might correspond with or contradict the literature and theory that I was familiar with. The process of analysis was principally one of pulling together a series of ideas and concepts, that had developed over the previous nine months, into a presentable framework.

3.1 A History of the Information System

During the interviews I experienced difficulty in obtaining a definition of management or production information from the middle managers. As one used to textbook definitions I found this disconcerting. I was unable to frame or plot the existing information system. The reason for this, I assume, was because no systematic information system existed. Although managers received information in a routine manner, such pieces of information were so disintegrated that managers did not seem to regard them as constituting a management or production information system per se. This was,of course, why Chris Davis desired to improve the standard of production information.

The history of the information in the factory was difficult to construct; peoples' memories were either vague or the managers were new and had inherited the existing pieces of information without knowing their origin.

David Wright — I think we've had a system that's just grow'd. We introduced a production chart which we stole from Boxes. I think it's now at a stage where it

needs an overhaul as we're trying to do. A sort of simplification; tidying up.

* * *

Alistair — The work we've done on the Working Party. Do you have any faith in it? Do you think it's going to change anything?

Simon White — I don't know really. Historically we've had a situation where senior management has been closely associated with what's going on on the shop floor. Obviously as you grow things have to change. We probably have a situation where information has been secondary to first hand knowledge in the past, and we might have reached a situation where that has changed. It's now the other way round. And we'll have to wait and see if it does bring about changes.

* * *

Peter Travers — I think you've got to look at the history. I think Plastics started off as a fairly small project. We're now in a growth situation; nobody knows how big it will get yet. I think you'll always find that in a new business the production comes before the systems. The growth comes before the realisation that the growth is there, and therefore, we must have the systems to go with it. I think it's just got to such a stage that we've been going round and round in circles if you like. The growth has been there, all the signs have been good, but we have not had the systems to back that up. We haven't looked at it in a professional way, if you like.

It's just been done on a one-man basis; one man

> keeps the information in his head and, provided he's in, everything is alright. The other thing is that until you're a certain size you can't have individuals responsible for individual jobs. You've got individuals tending to do two or three jobs, and there's no established system of passing information on from one job they're doing to the other job they're doing. You have to have the formal system when things get so big that each job is becoming a job in itself. You've got to devise a system that will go with it.

In constructing the history, it appeared that the information grew in an ad hoc manner. Individual managers would gather data or have it gathered for them; for their own personal information, to prove a point or justify an action or decision they had taken. This information would be shown or presented to another manager, who would then request a regular copy. A distribution list would grow in this fairly random manner. A situation then emerged where information was gathered and collated by a variety of people, and was distributed from the offices on various days of the week to a randomly chosen circle of managers. Often duplication occured; the same information being prepared in two departments and circulated on different distribution lists. A stock balance was prepared by Sales, by Stores and by the Accounts Department. The information used to prepare the stock balance in each case came from different sources. When John Stratford received all three copies on one occasion, it was realised that the stock balances differed; hence the concern over finished goods stock control.

A considerable amount of information was available in the factory. The new production information system required no new data. It was

a case of pulling together data from the various sources and processing it in a meaningful manner. Jim Brown reinforced this observation.

Alistair — Do you think much information is available?

Jim Brown — I've learnt and I keep on learning about information that is available in this place...
But I learn about it at the wrong time. I learn about it when I need the bloody information and somebody says "Well, that information has been available. Why didn't you know about it?"
There's so much information that, I think, if it was supplied, all the rushing about could be forgotten.

With the managers' inability to define management or production information they were also unable to describe its purpose. Peter Travers was the only manager to supply me with a succinct description. This description, however, was related to information in the Sales Department, which was generally of a more orderly nature.

Alistair — What is management information for?

Peter Travers — From our point of view in here (Sales); I would say it's to see where we've been going for the last month, compared with the previous month and so on. It's also to see where we should be going in the next few months.

Alistair — How do you go about doing this?

Peter Travers — Really, what I think we do is look at every piece of information that comes to us and see how we're going to use it. For example, one

thing we like to see very quickly at the end of each month is the 'orders booked.' Now one of the main reasons we do that is so that we can record how many hours have been booked on the various machines. We had a situation last year with Waddingtons; it looked as though they would be empty for about six months...Knowing that two months in advance, it gave us enough time to promote some business in that area, below price, just to keep the plant running, and we took some mushroom punnet business on that basis.

Alistair — So information is to take action?

Peter Travers — As far as I see it. Yes. Ah! but not only that. I would say that's where you need urgent information, you must be able to react quickly and so on. But you also need to build up a long term picture of what's going on, and we do this again with the orders inward, sales inward and so on. All these things give us a picture, which we can put together and see just how the business is going from our point of view.

These points made by Peter Travers were endorsed by the other managers. Mike Shilling referred to the need for good historical data to plot improvements. Jim Brown described information as a means of examining trends. Less emphasis was placed on action taking, however.

3.2 Interest in Information

I had assumed that production information would be a live topic to study. I thought every manager involved in daily production matters would have a vested interest in the outcome of the Work Party's efforts. I was surprised when I found that our work generated such little interest.

Alistair — Why do you think information has become such a concerned area in this Company?

Peter Travers — When you say a concerned area, how do you mean? Who do you feel is concerned about it?

Alistair — Well! The fact that Chris Davis has formed a Working Party to look into Production Information

Peter Travers — Oh yes...

Alistair — Do you know what our role on the Working Party is?

Peter Travers — Not really. I know who's on it, and from that you get an idea of what the main concerns and interest are. But as to why it's been formed and the actual purpose of it. No I don't know anything about that at all.

And on a similar vein with Charlie Johnson.

Alistair — Have you heard about the work we're doing on information, the new computerised stuff?

Charlie Johnson — This is what Whity's doing,is it?

Alistair — Yes.

Charlie Johnson — No. Haven't seen it.

Mike Shilling, a close associate of Simon White, was better informed but still lacked enthusiasm.

Alistair — What about this new computerised information system we've been producing?

Mike Shilling — He's (Simon White) shown me the type of stuff he's doing.

This lack of knowledge or interest in our work was not because the managers were satisfied with the information they received; as we shall see later there was no shortage of complaints. Rather, other problems, which the managers defined as more pressing, occupied their thoughts and attention.

Alistair — You mention production planning. Is that the most important aspect of your work?

Peter Travers — No. I would not say that it's the most important aspect. It's the aspect that at the moment is getting most attention, because we're not at all happy about how it's being done.

* * *

Charlie Johnson — The supervisors are trouble shooting all the time. That's the trouble. You see we get our blokes from the Labour Exchange. They might be bloody milk roundsmen; they could be any bloody thing.
"You interested in car mechanics?"
"Yeh! I take the engine out, do a few repairs?"
"O.K. You might do as a setter."
So we take him on and he's just a sort of handy bloke at home. Now you're trying to train that guy into a setter. They're going to learn the job in two years. So say, it's taken him (pointing to Robin Slater) twenty years damn near to get what he knows. So a lot of their time is snagging - you can call it snagging - or getting people out of the shit, because they're not conversant with

what they're bloody well doing.

* * *

Robin Slater — There's a broken pump on the Rotoformer; everybody knows about it; it should be tackled; it's on the action points at the Production Meeting. Then nine times out of ten you go back up there and it's still the same.

* * *

Jim Brown — We've got a situation, and it's the third this month, where we've got a Rotoformer down and nobody has got a bloody clue how long it's going to take to put right. Obviously we're loaded on every machine. It's a god only knows bloody job to rehash the plan when you've lost 20% of your capacity without causing anybody any problems.

* * *

Mike Shilling — The fact that we've got double shift supervisor cover is better than the day shift cover. It's still not ideal. There's only a charge hand on at night, so we don't have as much control on that shift.

David Wright summed up with the following.

David Wright — I'm cynical, I know, but I don't think the information system is needed to highlight the areas where action is needed. To strengthen the reporting sort of aspect as we appear to be doing is useful and it will improve, one hopes, the quality of information. Having said that, the information

we've got at the present time is good enough, at least to highlight the sort of steps needed.

To improve the quality of the reporting seems to me to be the second step; the first step is to get on with it and then we can improve the information and improve our actions even more.

Each of these, and many more comments, gleaned from the Production and Planning Meetings, and talks with managers, highlighted the problems the managers were facing, and which they defined as being important. The main areas or categories of problems were; planning, personnel training, mechanical breakdowns, shift supervision, space restrictions and personnel discipline. These problems compounded to cause bottlenecks in production and a continual series of crisis decisions, which occupied most of the managers' thoughts and actions. It was apparent to all the managers that problems existed in the information they received; however,only Chris Davis seemed to give it high priority.

3.3 Criticisms of the Information Before MADCAP

The managers levelled a number of criticisms against the pieces of information they received. The major area of concern was to do with the inaccuracies thought to exist in the information.

Alistair — Where does the information fall down?

David Wright — In the basic information that it used to work on. It's the classic one isn't it? "Garbage in. Garbage-out." I think that's overstating it, but there are too many inaccuracies. If you get it wrong at one stage then invariably it's going to be wrong throughout.

Here, David simply commented on the fact that inaccuracies existed and were introduced at the input stage. Jim Brown was more explicit about the cause of the inaccuracies.

Jim Brown — I get a daily up-date on the totals. Personally I don't have too much faith in the accuracy of some of them. Having worked on the shop floor for a time I've seen all the fiddles. I've seen how people treat those figures. There are also quite a few mistakes made on the Production Record Charts. I mean, once or twice a week, I go back to Work Study to query a couple of figures. On quite a few occasions they have proved to be wrong; but, you know, that's just the human element.

Alistair — Do you think that's all it is, just carelessness?

Jim Brown — Well in some cases that's all it is, but in other cases I'm bloody sure it isn't. Bonuses are all linked to it.

Following up the issue of deliberate falsification I spoke to Simon White, who handled the Production Record Charts.

Alistair — Is the information ever deliberately falsified?

Simon White — Sometimes the information is uncheckable, but we do have a particular instance of that, where there is no doubt that the information was deliberately falsified!

Alistair — Which instance was that?

Simon White — The labourers in material recovery; they just book

the loads they move, so they can put down as many as they like; the bonus is based on the number of loads they move. On an overall basis you can say this can't be true. Last week ten men had put down ten loads each; this means they moved one hundred loads altogether; we only bought ten bins so how did that happen?

This was a particularly severe example and, as Simon said, the information was largely uncheckable. However, the girls on the Rollercutters invariably recorded that they had cut more trays than they received from the forming machines. These two groups of machines were controlled by different Departmental Production Managers, and they received different pieces of information. Only when the figures produced on the Rotoformers were compared with the figures produced on the Rollercutters was it realised that some falsification of information was taking place.

During a talk, Peter Travers admitted that he deliberately held back sales orders from one month, if the level was already high, to the next month in case orders fell during that period. This gave the impression that the demand for goods was fairly even throughout the year, whereas, in reality, there were monthly fluctuations.

Mike Shilling also experienced inaccurate information.

Mike Shilling — What annoys me is that sometimes the utilisation figures that come through to me - admittedly they are last years', and there were problems in Stores - some of them were quite ridiculous. You have some PVC on a Rotoformer which was 40% short. There's

> no point in me even discussing that; obviously a Stores' problem somewhere! But there might be people in the organisation that say, "Ah bloody Rotoformers. Fancy wasting 40%," but I'm never given the chance to explain. I think I know why, and it's because nobody has any faith in the figures.

In this statement Mike Shilling was not simply interested in the inaccuracies, in terms of the quality of information, but also how such information, provided by the Accounts Department, would reflect on his department's performance. Note also that although this interview took place in March, the material utilisation figures were for the previous year, such was the time lag necessary for Accounts to prepare the document and even then it was highly inaccurate.

Peter Travers offered another cause for inaccuracies other than falsification or carelessness.

Peter Travers

> Well it's like everything else; it's a chore. You've got people filling in the initial paper work who don't fully understand just how it is going to be used later on. So why bother? It's a chore so just slap in a tick, get it away as quickly as possible. It's so often the case that the information is coming from the grass roots if you like, and they don't understand why it's needed.

Inaccuracies were also to be found in the recording and processing of information; clerks working by procedure sometimes allowed quite ludicrous errors to slip through, either whilst recording or processing

the information; these inaccuracies were both the result of carelessness and lack of understanding. The processing of information was largely mechanical i.e. adding this column to that column times one hundred.

Simon White commented on the problem of recorder error in relation to the machine operators:

Simon White — We have to correct one hell of a lot of it which is incorrectly entered. We try and make sure it's reasonably accurate. I certainly feel that if the production charts were just taken on their face value the information wouldn't mean anything, because there are so many errors, misinterpretations and so on.

In this comment Simon White mentions the word 'misinterpretation' of information. Much of the information provided on the factory floor was precisely defined, e.g. the number of trays produced. However, in the area of downtime the setter had to judge the cause of the breakdown or stoppage and this judgement allowed misinterpretation of events to occur.

Peter Travers — Take 'wait labour'. That means the machine is shut down waiting for people to bloody run it. From talking to various people I get the impression, and I think everybody gets the impression here, that 'wait labour' is used as a general dogsbody. Any problem that doesn't fall into the other categories gets lumped into it.

Jim Brown made a similar comment.

Jim Brown — With those boxes on the production record chart, you're asking those people to make a judgement as to what those reasons were. You're also giving them a chance to chicken out from putting in the true reason.

This last point by Jim reinforces his belief that information is deliberately falsified although not in this case for pecuniary reward.

Charlie Johnson criticised the information he received because of the measures used.

Charlie Johnson — Everything in this place is in kilos. The sooner we get back to a yardage issue the better. All they bloody give us is kilos, kilos!

Mike Shilling makes a similar comment, although, on this occasion he is referring to measuring the speed of the machine.

Mike Shilling — If it was in strokes per minute then we could relate directly to the estimates. You know, to see whether it's up or down.

Simon White drew my attention to the fact that information prepared on a weekly basis is often too late for the managers to use in their day to day, or hour to hour activities.

Simon White — Another thing, of course, is that most management information is bound to be so far behind, Section Managers must react much quicker. They've got to react on an hour by hour basis.

David Wright confirmed this point.

Alistair — Is the information provided in time?

David Wright — Some of it, no. I think some of it comes through too late. Information is relevant only as long as it can be used.

* * *

Peter Travers — I mean they have problems over timing. It takes a lot of time to get information out of the factory.

The managers criticised the lack of detail provided in the information.

Charlie Johnson — What I get from Whity at the moment is the daily production figures, which shows the performance for that particular day. It has the name of the job, how many strokes, say 10, and the number made that day. Unfortunately the next column should say how many we ought to have made. We've got to work that out. With another column it would save us some work.

* * *

Mike Shilling — Not enough detail is a problem; take this example. From the Works Order I see 'Material: 2000 kilos', - that is the order for 300,000 trays. Now...they might have issued 2100 kilos. When it gets to completion and I see an order for 300,000, and we've made 320,000 I don't know at this stage how much materials was actually issued. All I can say is - Yes that looks alright and sign it off - great, no problem; it looks as if they've gone under the stroke and we haven't had any waste.

(In a similar vein.)

Jim Brown — The overall picture is good enough; it's just that the detail is not good enough in some cases.

I think there's got to be some area on these sheets where you can explain extenuating circumstances. I mean - there's nothing - it's all hard and fast. It's either 'wait labour' or 'wait instructions' or 'wait material.' There's no area where you can put extenuating circumstances in. I mean if you've got 'wait engineer.' I mean that covers a multitude of sins. I mean if you haven't got a spare it goes down as 'wait engineer' or 'mechanical breakdown.' For 'wait engineer' you can have eleven hours on RDMs; that's quite possible because they didn't have a spare part and not because there was no engineer. So a lot of things are misrepresented.

This not only refered to the lack of detail but also reinforced an earlier point that events were often misrepresented in the information. Simon White sums up this point with:

Alistair — Do you think the information we're providing gives a full picture?

Simon White — Maybe not a full picture; it certainly gives a guide. I don't think any information tells you exactly what's happening.

Charlie Johnson had his own particular view of management information.

Alistair — Do you receive information, forms and so on?

Charlie Johnson — Yes, but I don't understand half of them...

Because I haven't got time. I dont' bother to bloody read them. I'm terrible; I've always been terrible; some people are paper minded or figure minded. What I'm really concerned about is to run it as fast as we can, as efficiently as we can and as cheap as we can. I get a lot of papers that mean bugger all anyway. I think there's a lot of emphasis on things that are irrelevant.

Again with reference to information:

Alistair — Are the production record charts much use to you?

Charlie Johnson — No. Do you know why?

Alistair — No.

Charlie Johnson — No bloody time to look at them. It seems to be more important that those things are up in the Works Study Office than us having a look at the buggers, because at half past eight they're grabbed and disappear and that's the last we'll bloody see of them.

Finally Charlie did not approve of the presemtation of the information.

Charlie Johnson — I don't know what I can do about it; they're just showing me some bloody figures aren't they? What can I do about figures? They just mean 60, 70, or 80, or whatever the bloody figure is. It doesn't tell me what to do to get better figures.

As mentioned in the previous section, the information was gathered in

a piecemeal manner and no manager received all the information available. Jim Green reinforced this point (see page 73) Furthermore, the type of information received differed between the two production departments. Mike Shilling claimed he did not receive his speed measures in strokes per minute, yet Charlie Johnson refers to strokes per minute in his comments.

3.4 Summary

From this data and my observations I would conclude that the information, as received by the managers, before the introduction of the computerised production information could be described as a routinised process conducted by individuals performing a variety of roles, with the intention of providing and distributing an account of events which had taken place within some chosen time span. The information was prepared and circulated in a fragmented manner on various days of the week and to a limited number of managers. No managers received a copy of every piece of information produced. The information, at best, provided a partial and distorted account of the events. The following describes this definition more fully:

3.4.1. Role Types

An individual could perform the role of provider, recorder and or processor of information. A single individual could perform more than one of these roles. The machine operator or setter was a provider and recorder of information. If a machine were to break down, the setter would decide on the cause, measure the downtime and record this information on the production record chart.

3.4.2. Routine Process

The provision, recording and processing of pieces of information

was routine in that these steps were carried out in a regular, procedural manner. The information to be provided, recorded and the means by which it was to be processed were predetermined. The process was governed by rules and method. Others, familiar with the rules and method could interpret and understand the information they received. New comers such as Chris Davis, Cyril Jenkins and myself were not familiar with the rules and method, and therefore experienced difficulty in understanding and collating the information.

3.4.3. An account of events which had taken place

The pieces of information as received by the managers on the various distribution lists were necessarily historic; they were in effect a 'post hoc account.' The term 'account' is used purposely to reflect that information was subject to interpretation by the provider, recorder, processor and receiver. Information was atleast in part a subjective account of events, and not an objective measurement of the actual event.

3.4.4. The information was prepared and circulated in a fragmented manner

The provision, recording, processing and distributing of information was piecemeal; it was not a co-ordinated systematic activity. Managers did not receive information, they received pieces of information from a variety of sources at various times of the day, week and month. From these pieces of information, managers constructed an overall picture of events which had taken place in the factory. As no managers received every piece of information available there were gaps or fuzzy areas in the picture.

3.4.5. The information at best provided a partial and distorted account

The account was partial; firstly, as mentioned above because managers did not receive all the pieces of information that were available. Secondly, the information chosen to be provided, recorded, processed and distributed was subject to a process of selection. It was obviously impossible to record every event, or in fact every aspect of every event. This process of selection took place on a number of levels. Firstly, the managers must have selected which events or which types of events were to be recorded. Secondly, which aspects of the events were to be considered. Thirdly, the method of processing the data would have to be decided upon.

This process of selection was influenced by the ease with which the information could be provided and recorded. Information pertaining to material issue and usage was an area that was difficult to measure. 'Waste' could be reground and used again but was, however, inferior to 'virgin' and had to be measured separately. In view of the difficulties in measurement, material usage was not recorded.

Much of the information was inaccurate; inaccuracies were introduced when the information was provided, recorded or processed; inaccuracies could be introduced through lack of understanding, through carelessness and through deliberate falsification.

I have deliberately omitted from this section the managers' comments on the use of the pieces of information they received.

The uses of information constitute a section in themselves and will be dealt with shortly. (See page 104)

3.5 The New Computerised Production Information System (MADCAP)

The brief of the Working Party was to prepare unified, timely and accurate information covering the areas of production performance, material usage and finished goods stock control. By July the production performance information was being prepared on a weekly basis, processed by computer and circulated to most managers with any interest in production. Apart from the reports prepared on material usage and finished goods stock control no further progress was made in these areas.

Chris Davis and Cyril Jenkins conveyed their satisfaction with the newly produced information, although they were not specific in their comments. Other managers receiving the information were more specific in their praise.

Alistair — Do you think MADCAP is an improvement?

Mike Shilling — Obviously.

Alistair — For what reasons?

Mike Shilling — The previous information was given in hours very simply, therefore you had to do all your own working out. In a nut shell that's probably the most important aspect of it. Now it gives you some sort of guideline. It's broken down, perhaps a little more sensibly than it was before. I don't think I could argue with the breakdown at all; so really, as far as

I'm concerned, it's far better than it was before; it's useful.

* * *

Alistair — Do you think MADCAP is an improvement on the previous information you received?

Jim Brown — Yeh!...Undoubtedly. No question. Well I think the difference is that you've got information together which gives you an indication of the trends in production without having to go to about ten different places to find it. I think it's a useful document.

* * *

Alistair — Do you think MADCAP is an improvement?

Peter Travers — It's a form of information now, whereas before it was piecemeal. You used to get what you asked for and nothing else. Now you know exactly what you're going to get. Bearing in mind, of course, that MADCAP is only a very small part of the information we get anyway. There are many other things and, generally speaking, that's all been formalised. The monthly reports and so on, we know exactly when to expect things. All the information we need to plot progress is now available in a formal form. I don't think there's any information we need that we have to chase around for.

After a struggle I managed to get Charlie Johnson to make a comment about MADCAP.

Charlie Johnson — Oh yes. I don't see much wrong with it. All I'm

really concerned about is the overall picture of the machinery; the stroke rates and so on; the overall efficiency; well,not so much the overall efficiency because some of those figures are out of my control. I really only want my own performance when the machinery is running; the running efficiency.

Alistair — Does it produce all the information you need.

Charlie Johnson — Yeh...more than enough.

This was very high praise indeed. From the comments I felt we, the Working Party, had satisfied at least the first two of Chris Davis' criteria; the format was now unified and was processed and distributed each Tuesday, thus producing a co-ordinated set of production information. All four managers, cited above, were now aware of an information system; it was universally titled MADCAP and obviously, from the comments, the managers appreciated the new format. Reports on our attempts to improve accuracy were less encouraging.

Simon White,whilst computerising the new system commented:

Simon White — I think in a lot of the information which is provided for MADCAP there is a bit of doubt in its accuracy. That will still be a problem. It will certainly give guides and trends even if every single figure is not correct. It will be information on which senior management will be able to take action.

It is interesting to note how Simon White defined the purpose of

this new information and who he had in mind whilst developing it. "It will certainly give guides and trends" and "senior management will be able to take action."

Alistair — Does MADCAP provide you with most of your information requirements or do you need other documentation to go along with it?

Jim Brown — Well, I think the information itself is the right sort of information, but I'm not really happy that some of it is, if you like, valid. As I've said before I've seen a lot of doctoring of sheets for bonus on the shop floor and I'm sure that must be reflected in the information that's recorded in MADCAP.

Alistair — Any examples of that?

Jim Brown — There's a couple of examples. A while back there were some instances on the Waddingtons where we had two or three days down 'wait labour' where in fact it was nothing to do with waiting labour; we had sent a cutting plate to be reruled and it was just put down as 'wait labour'.

Alistair — So 'wait labour' is still a problem?

Jim Brown — Always will be.

Alistair — Do you find people investigating these things now?

Jim Brown — No. I don't think people do investigate. I think there's an awful lot of things that go on the production sheets that, from the point of view of what people are doing or why the machines are stopping, which are never investigated.

Peter Travers made similar points to Jim Brown; I however wish to reference those later in a different context. Charlie Johnson had little to say on MADCAP; I suspect he rarely used the document. As mentioned previously, he was more concerned with incentive schemes during the interview than with MADCAP.

Mike Shilling, on the other hand, found the accuracy of the figures satisfactory.

Alistair — Do you think the figures are accurate?

Mike Shilling — Yes! Once I found a wrong one, but I haven't got any real argument about the figures.

Alistair — What about the number of goods produced?

Mike Shilling — Yes, as far as I'm concerned I'm quite happy. Every now and again you get a slight hiccup if a bloke forgets to do something. But no, as far as entry into this (pointing to MADCAP) is concerned - forget the Rollercutters, that ain't nothing to do with me - as far as entry in Print and Rotoforms go...within a % or so. I would say that these figures are bloody good.

This response from Mike Shilling was not surprising. After all he was responsible for ensuring that the information generated in his department was of a high standard. He was also a close associate of Simon White and, through courtesy, would ensure accuracy.

A number of other reservations were levelled at MADCAP.

Alistair — Do you think MADCAP provides the full

picture of what goes on in the factory?

Jim Brown — No, I don't. Some of the situations I've already outlined to you. I think all MADCAP shows is the black and white area, and the problem with a black and white area, where you identify everything very clearly, is that when you put into little boxes why a machine stopped etc., etc., you automatically open the door for people, if you like, to take advantage of that system and, at the moment, I don't think there's anybody to ask enough questions on the factory level; to ask what's happening and where and why to provide the correct flow of information for MADCAP.

Here Jim Brown made a very similar point to that which he made about the previous information he received. The little boxes on the Production Record Chart provided the basic data for the new system as it did for the old information system. Peter Travers makes a very interesting observation in line with Jim Brown's comments.

Peter Travers — There's a risk you always run with anything committed to paper or computer, it gains credibility. A written document is always suspect as far as I can see it; you know, if you get a handwritten piece of paper from the girl in the factory saying that's what the completion figures are or anything, you tend to say, Ah yes, that looks alright, or you go away and check it. As soon as they're committed to computer or are typed, people tend to think they've gained credibility. You've got to fight against that because all that information is based on bloody hand-written notes by girls. They're reflections of what they think or what they suspect has happened.

Following on from this point made by Peter Travers; prior to the new system, the same piece of information might have been collected from two sources; any irregularities would be shown up when the two pieces of information were compared. MADCAP gathered information from single sources; thus comparison of figures did not occur in the same manner. The managers did check on information, this will be discussed later.

Peter Travers — Here we've got change-over efficiences and all these things look wonderful. Harrison and Barber - 200% change over efficiency. That means running adjustments, took half an hour instead of one hour, big deal! It looks dramatic; it means absolutely nothing!

Here Peter Travers implies that figures such as the 200% efficiency could be misleading to those people who do not know the background or the reality behind the figure. In the same vein Peter Travers made the following comment:

Peter Travers — But the fact that it's taken over a full week and it is just a per cent up or a per cent down does not really bring it down to its basic level for us. Again you know there are hours when the machine will be running well and there are hours when the bloody machine is running badly. All these sorts of things. It's showing the general efficiency. It's not showing the reasons why. The only time it does or tries to show why is when it shows why the machine stopped for an hour because there wasn't any labour or there weren't any instructions on the machine. It doesn't get down to the nitty gritty, hour to hour. Again it's a general

picture: And I don't think anyone expected it to. MADCAP should be the first step to show you where the problems lie; then you investigate from there.

These comments implied that MADCAP did not supply enough detail for the managers directly involved with the day-to-day production activities. It also implied that MADCAP itself only provided a partial account of events as did the previous information.

Mike Shilling — You have to take into account that a running adjustment is only recorded for quarter of an hour; now on the print section without any doubt there is a lot which are not a quarter of an hour which are not recorded. So if you take a figure at the end of the week it doesn't include all the adjustments, so it's even higher than that that's recorded.

Here Mike Shilling states that the information excludes minor events which are difficult to measure, and argues that the cumulative effect of this omission affects the overall picture portrayed by the information. This reinforces the point that MADCAP only produced a partial and distorted account of events.

Jim Brown commented on the timing of MADCAP.

Jim Brown — Normally I'm aware of the information before it comes to me because I'm checking on a daily basis, or making myself aware on a daily basis of what down times are incurred and why. So generally speaking I'm aware of the information from production before MADCAP comes out.

Mike Shilling made a similar comment:

Mike Shilling — Now I can show it to my supervisors and 'sus out' what's happening. Mind you the dynamic department that we are, we obviously know what's going on in any case. You know MADCAP comes to us a week later, and confirms what we already know.

From these comments it is possible to see that MADCAP was perceived as an improvement on the existing information in that it provided a regular, unified account of events which had taken place over the period under measurement. The information was produced to a standard procedure and thus followed standard rules and method in its construction. These rules and method were universally known and thus managers were able to interpret and understand the information.

Nevertheless, middle managers had reservations about the accuracy, timeliness, generality and detail of the information provided on MADCAP. In the words of Simon White the purpose of MADCAP was: "It will certainly give guides and trends even if every single figure is not correct. It will be information on which senior management will be able to take action." MADCAP was designed for senior management and, in effect, by senior management. Chris Davis had skillfully manipulated the Working Party into designing an information system which would provide him with sufficiently accurate, timely, general and detailed information for his purposes, which were to monitor trends and improvements and point to general problem areas where he could direct his own and his managers' attention. As mentioned previously I do not think Chris Davis was totally selfish in his outlook; he had intended that the information be in a form

to be of use to all managers. However, Chris Davis' own requirements appeared to have the highest priority.

3.6. My Research Model Collapses

It was my intention at the outset to compare the situation before and after the introduction of MADCAP. As seen above peoples' perception of information had changed with the introduction of MADCAP, although there were still serious reservations. Other changes had taken place during this period. Peter Travers summarised what he called the transformation.

Alistair — When I first came here there were considerable problems, with a great deal of crisis management going on, What's the position now? Has this improved?

Peter Travers — Oh you know damn well it has. There can be no question at all. I'll give you the commercial view if you want. I can't believe the transformation this place has gone through in the last six to eight months. Firstly, there were some outside problems last year which we must not forget; there was an Engineers' dispute which really did cock us right up. Another thing was that we started the year on double shift; we ran stocks right down because of a lot of hoo-ha from Accountants and so on. So we started the year off unable to react to customer requirements, and we spent the whole of 1977 fighting fires and the net result, without any shadow of a doubt, was total inefficiency in the factory. Even when the machines were running, you could only guarantee them running for about five hours before we had

to put some other job in. It was chaos. Every other day there were changeovers. So we were getting shorter and shorter runs and we were disappearing up our own arses.

Conscious decisions were then made; we decided not to run stocks down to the same level at the end of last year. We decided to keep the factory running on treble shift, with overtime at that time. We decided to formalise planning which was lacking in the previous year, people were keeping things in their heads. Those things had to be put right for 1979 and they were put right. On planning and control, we put boards up, we educated Representatives and Customers into thinking ten week lead times instead of the silly bloody three weeks.

The difference is absolutely unbelievable, it really is. You can now come in on the morning, sit down and you know damn well you're not going to get a panic phone call. O.K. Everything is fairly well sown up. Marvellous job, we mustn't get complacent about it, though.

The interesting thing is that we had the girls go out on overtime ban, so they wouldn't do any weekend overtime. We thought "Christ. How are we going to manage?" We bloody did it.

We've now got to the stage where people are coming in to us and saying, "Come on. Let's have some more orders, the machines are looking a bit thin in six weeks time," or "there's a gap there." That's marvellous. Fantastic, never seen it before, never seen the planning people come into this place and say, "where are the orders?" The pressures gone from one side to right round. We were fairly

complacent in that we thought the salesmen were doing what they could, they wouldn't do any more, because what's the point of stimulating things if we couldn't really cope with it. Now it's gone arse about face, now we're,putting pressure on them, and saying the plants waiting. The plant hasn't increased in size, the labour force hasn't increased in size. I suspect that we will show a 30% greater output this year, if not more than that.

In the RDMs now you can run for a week solid, without a changeover, maybe two. We're maximising runs all the time, and we're not really building massive stocks if you look at the stock levels and so on. We've been able to organise the thing so tightly that we've been producing exactly what we want, when we want it. And those goods are almost going straight out the door.

You still do get the odd problem, the odd panic, but generally speaking these are customers' problems and not because we couldn't achieve something for them.

One of the great things about our system is that we've still got flexibility. We can still react to customer problems. We now think a panic is something that's wanted in six weeks time rather than on Monday. You know that's the difference and that is one hell of a difference.

Alistair — Has your relationship with Production improved?

Peter Travers — I got to keep saying it, really the planning side. We have an absolutely 100% right relationship with the planning side. We're fully kept in the picture about what's going on.

Peter Travers

The reasons for changes and so on are explained to us fully. If we genuinely have a problem, I think it's a question of everybody being honest with everybody else then we know damn well that somebody will do something about it. I honestly get the feeling that Planning will move heaven and earth just to get something right.

I think Planning now have a commercial awareness - quite honestly - I think they know the implication that if you do let a customer down his factory will be stopped. Then this company loses face.

You can sit down with a customer: Last week we were talking about new projects with Express Dairies and the guy actually sat there and said, "we would not consider you for a new project last year, but we would today."

The feeling you get is that the whole thing is controlled, it's down tempo, it's professionally organised, as opposed to that out of hand, out of control situation, where you felt you're going headlong down a hill.

Other managers confirmed Peter Travers' view. The better planning of production enabled planned maintenance to occur on the machines, reducing the level of waste and downtime. The introduction of a treble shift did, in effect, increase the capacity in the plant, relieving many of the bottlenecks. The new Extruder which Peter Travers failed to mention alleviated the pressure on this department. Prior to my arrival some structural changes had been introduced, the production process had been departmentalised with Charlie Johnson now concentrating on the Extruders, the RDMs, the Rollercutters and the Granulator. Mike Shilling took over the Print Room and the

Rotoformers. These changes in policy, procedure and structure had led to the dramatic improvements within the factory. Nobody I spoke to attributed any of these improvements to the new Information System.

I had assumed that the middle managers were receiving the new information from December onwards, firstly in the manual form, then the computer print-out from March onwards. This was not the case.

Mike Shilling — The management information stuff, which I don't get at the moment incidently, which I'm a bit annoyed about because I thought I should be provided with the stuff at the moment. The only way I can guage performance at the moment is to see the following Thursday what the blokes have earned in bonuses.

Mike Shilling did admit that he could go to Simon White at any time to check on any peice of information he needed.

Mike Shilling — To be fair. I said I didn't receive any management information - but to be fair I do know that Simon's got some and I can go along and have a look. And he has shown me the type of stuff he's been doing.

Jim Brown was in the same position as Mike Shilling

Jim Brown — Well I was supposed to be getting the production efficiency records (the previous system) but they seem to have dried up. There's also some information that's been compiled by David Bright which once again I was meant to be getting a copy of, which I'm not.

These conversations took place in February. I asked Simon White about it:

Alistair — Who now receives the new information?

Simon White — Chris Davis, Cyril Jenkins, David C., and myself.

Alistair — Is that all?

Simon White — To be perfectly honest, Alistair, I stopped circulating the old information around Christmas and haven't heard a murmur from anyone.

Jim Brown and Mike Shilling were aware that they did not receive the new information, however they did not complain to Simon White. This raised the question of how important such information was to the Middle Managers directly involved in production.

3.7 The Emergence of a New Topic

It would be artificial to assume that I had never enquired about the use managers made of the information. I have deliberately kept such comments until this section for the sake of structure.

Mike Shilling — There are occasions where you think, Ah!, now I measured that once and the supervisors measured it shift by shift and they told me it was such and such a rate. Then at the end of the week here's the management information and there are occasions where the figures don't tie up. Then we have to try and analyse why there was a difference. In the end we get to things like "we had trouble with the size of the rolls and the blokes were a bit lethargic putting them up,

thinking their backs were going to go any minute." Certain instances which weren't picked up at the time which over the run did contribute to a down situation. Then we can check to see if the blokes were on the ball putting the rolls up or were they out having a fag when the rolls ran out, this sort of thing.

Here Mike Shilling reinforces the classic definition of management information. It provides a guide to problem areas which can trigger investigations. However, what is interesting is that the trigger mechanism is a comparison of day-to-day observations, with the information on MADCAP. If there was a discrepancy then an investigation would take place. Mike Shilling has already commented that his dynamic department would know the information in MADCAP before it was distributed. When some discrepancy occurred between what Mike Shilling expected to see on MADCAP and what was actually recorded, he would investigate further. One could deduce from this that MADCAP served as a means of confirming Mike Shilling's knowledge of events in his departments.

Mike Shilling — The job is so much a day-to-day job that it's interesting to have the historical background to see whether the department is becoming terrible or whether it's improving or what.

In this comment, Mike Shilling harks back to a point made much earlier by Peter Travers (see page 75) which is that such regular information is useful as a means of examining past performance and monitoring improvements. All managers agreed that this was an important use of MADCAP.

Jim Brown made similar points to Mike Shilling.

Jim Brown — I've got daily totals and I'm also checking machine totals. So all I use MADCAP for is a sort of cumulation of information I've seen during the week, presented to me in a statistical form; so I can look at it and say Christ! that was 42%. It also jars my memory of things that have fallen by the wayside. So MADCAP tends to reinforce information I've already gained anyway.

And then.

Alistair — Do you think that MADCAP itself is a control document?

Jim Brown — No, I don't. I think it just gives you a base of information about what has happened. I don't think it gives you any control, because I don't think it's used as such. The information is presented, but in the time span of MADCAP I've never once been to a Production Meeting where anybody from the Production Departments including the Production Manager said "Right. Last week's figures on MADCAP, we had 53 hours down on Waddingtons." It has never been mentioned.

Firstly, Jim Brown reiterated that MADCAP produced historic data, but then went on to comment about the lack of reference to MADCAP in the Production Meeting. I, in my observations, had not heard it mentioned either, which I found surprising. Charlie Johnson agreed.

Alistair — At the Production Meetings, do you ever sit down and discuss MADCAP?

Charlie Johnson — Well, you've been to the meetings; they haven't changed at all.

Peter Short — I'm on record as saying that the meetings were rubbish and a waste of time.

I personally did not agree with Peter Short. However, feelings did run high about the worth of the Production Meetings. This point will be discussed later.

As usual Charlie Johnson had his own unique comments to make about the use of MADCAP.

Alistair — Has Chris Davis or Cyril Jenkins ever come to you with specific issues from MADCAP?

Charlie Johnson — No! Sometimes they say we've had a bloody poor week, last week, and I just ignore that remark.

Alistair — Do you think any more action should be taken on MADCAP?

Charlie Johnson — No thanks, it might give me more work! No I don't think so.

Peter Travers made some very interesting and lengthy comments on the use of MADCAP. It was largely these comments that inspired me to investigate the phenomena described in the next section. In October 1978 I had asked Peter Travers the following question:

Alistair — What do you need to know about?

Peter Travers — We need to know things like orders inward, and

so on; what is planned to happen over the next few weeks, so we can tell our customers what we expect to happen, because it's very important for them to know when they're going to get their goods and so on.

That I would say is the main thing we need to know about; that's what you'll find us doing; spending an awful lot of time in the factory just getting together that sort of information.

Alistair — You find that you have to go into the factory to get it; it's not supplied to you?

Peter Travers — Very rarely, and, as I say, the information we get from that side of the business from the dispatch department, the factory and so on is always suspect anyway, and personally, I always feel I'd rather go and check it and talk to the people involved. You can learn an awful lot more from talking to people about something than you can by ringing somebody up and asking for a figure off a card.

If you go over and explain what you want and what you want to achieve at the end of it, people tend to try and give the information that you need in its entirety, rather than just giving you the bits that are recorded.

Alistair — So you say that communication by word-of-mouth is important to you?

Peter Travers — Oh yes, we probably rely on that a lot more than perhaps we should because the systems that back it up aren't very good. I wouldn't like to see that change an awful lot, really.

Alistair — You wouldn't?

Peter Travers — Not personally. I think it's very good for people to be communicating in that way, so they genuinely know if you've got a problem. I mean we do get problems obviously. I mean you can go and communicate with somebody that you're dealing with everyday, anyway; they know that's a serious problem. You don't go over there just when you've got a problem, you're over there anyway, you get to know the people and so on and I think that's very, very important.

From this point on I was interested in informal information; that is, information used by managers which is not part of the officially recognised information system. I continued to collect comments relating to such information out of interest. In the July interview I asked Peter Travers the following question:

Alistair — Are you still relying on informal information?

Peter Travers — Yeh. I'd say we still use a lot of informal information; which very often backs up MADCAP and the other bits of formal information, or very often gives you reason to doubt some of the information that comes by the formal route. We still have some doubts about MADCAP and very often it's informal information that leads you to believe that some of that information is, strictly speaking, not true.

Alistair — Have you got any examples of that?

Peter Travers — We get completion figures and so forth as one system of formal information. Whenever a job is completed we get a completion figure. We are very often led to believe that these

figures aren't strictly true. We may get information from Sean Davies something like "Well you know those figures coming out of the factory, well they're a load of nonsense aren't they? That wasn't the correct number of pallets coming out, or the pallets were only half loaded," so that puts a query under the formal information.

I was saying about rollercutting; we to some extent know they inflate the figures they roller cut. That's our opinion; very often we hear that it's because of bonuses.

And then you (Alistair) say, how much do you rely on figures coming out of the factory, and how much do you rely on MADCAP, and so on. Ah m-m, I think there we try and check, if we feel it's necessary, try and check the figures that go into Stock at the end of the production line, rather than just taking them at face value.

Alistair — So you're cross-referencing sources of information?

Peter Travers — We only do that when we need a specific piece of information about an individual situation rather than a general picture. I think, as the general picture goes, we take the formal information as being fairly reliable because if you're taking averages and so on, what you lose on one you're probably going to gain on another, and it's all going to come out in the wash the following month and so on. So for the general trend it's fine.

But when you get down to specific accounts you would then tend to check information a little more carefully, for a specific reason. If you're talking about stock containers, it's not so much of a problem. You know you have stock and

> the customer is not going to clear you out of stock, but when it's a specific job, when you're only running it once every six months, you have to know exactly where you are with it, because if you are running out of stock and you don't know it then you're in trouble.

I have described the information received by managers, both before and after MADCAP, as being a partial account of events. Throughout my period in the factory I felt that by concentrating on the information officially documented and circulated, I myself was presenting a partial account of how managers informed themselves. If the information received by the managers was indeed inaccurate, too general, too late and lacked detail, and given that for one period no information was available at all, how did the managers go about informing themselves, how did they gather sufficiently accurate, specific and timely information? Henry Mintzberg has posed a similar question and answered it in the following manner:

> "a major reason managers do not use formal information as specialist think they should is that managers find difficulties with the M.I.S.; it is too late and too unreliable, too limited and often too general; instead managers turn to ad hoc informal information systems that they design and prove for themselves."
>
> Mintzberg 1975.

The comments made by Jim Brown, Mike Shilling, Charlie Johnson, Simon White, Peter Travers and David Wright confirm Mintzberg's impediments to management information. I would like to add that managers may also have difficulty in understanding information, have too little time to fully analyse it, find it irrelevant and may not be aware of its existence at all. The comments made above by Peter

Travers imply that managers do indeed use informal information to confirm the formal information and to fill in the lacking detail. These comments led me to question the nature and process of this informal information; was it indeed ad hoc?, could it be described as a system?, and was it used simply to supplement formal information, or did it have a more fundamental purpose or role in the factory?

3.8 Summary

In this chapter I have presented data and an analysis of how managers defined the official documented information both before and after the introduction of MADCAP. Although the managers viewed MADCAP as an improvement over the previous information they received, they had serious misgivings about its use as an action document, claiming that it was inaccurate, too general and arrived too late.

The gathering of this data was an attempt to implement an organisational change model. It was to examine the changes in the organisation brought about by the introduction of the new information system. Over this period a number of changes did occur; however, the managers did not attribute these to the introduction of MADCAP, hence my data thwarted my research model.

During this stage of my research I gradually became aware, from my observations and from comments made by the managers, that the official documented or 'formal' information constituted only a small part in the process of informing. That is, the managers relied heavily on informal information sources to receive information about events. Thus, through my research experiences a new topic emerged which was to provide the basis for the remainder of my research.

CHAPTER 4

FINDING OUT WHAT THE HELL'S GOING ON

I had not been at the factory for very long before I realised that the managers spent a considerable amount of time talking to each other, and that contained in these conversations were large amounts of information concerning past, present and future anticipated events in the factory. The managers themselves described these processes of mutual informing or information exchanging as "getting filled in on the details," "getting the full story," "getting clued up," getting genned up," "getting the full picture," and Jim Brown described it most aptly as, "finding out what the fuck's going on;" a slightly watered down version of this phrase "finding out what the hell's going on" became the title of this chapter. Implicit in these phrases is the process of gathering information about events in the factory; also implicit is the awareness that some untoward or interesting event has, is or is going to take place, which prompts the managers to gather information. What is not implicit in these phrases is the nature of these processes, that is, the means by which the managers gather information or the mechanisms and motives which prompt them to gather it. It was toward these issues that I directed my attention for the remaining three months of my stay in the factory.

It is fairly evident to an observer of any organisation that information is transmitted informally, by word of mouth, between members of that organisation. The observer need only stay in the organisation long enough to find out where managers meet, formally or informally, to talk. I decided that as this phenomena was so self evident, I would

not seek to prove its existence, but rather describe, and then analyse its nature. The question I posed myself was simply: "How do managers find out what the hell's going on?"

4.1. MADCAP as a Trigger to Seek Information

Before examining how managers gathered the information, I was interested to find out what prompted or inspired them to do so. To begin with, the formal information, provided in MADCAP, often triggered investigations; on page 104 Mike Shilling commented on how there were occasions when MADCAP did not "tie up" with his observations; this then prompted him to carry out a more detailed investigation by "susing" it out with his supervisors. Jim Brown made a similary point on page 106 , "It (MADCAP) jars my memory on things that have fallen by the wayside:" In most of the criticisms of the formal information cited in this thesis, both before and after MADCAP it is suggested that managers are obliged or prompted to gather additional information to overcome inaccuracies, lateness, and lack of detail. The comments further suggested that the managers had gathered information from other sources prior to receiving the formal information. Jim Brown stated on page 106 , "so all I use MADCAP for is a sort of cumulation of information I've seen during the week." And Mike Shilling on page 98 , "Mind you the dynamic department that we are, we obviously know what's going on in any case."

From these comments and others to be quoted later, it became apparent that although formally supplied information may have acted as a trigger mechanism to investigate some events it was not the sole mechanism. What else prompted managers to 'look into something?'

4.2 The Production and Planning Meetings

I had attended the Production and Planning meeting and it struck me that as managers from the various production and service departments got together at these pre-determined times, for a meeting, information would be transmitted between them. This was undeniably true of the planning meeting while it lasted. The Sales Department continually questioned what was going on in production and vice versa. Peter Travers would wish to know how long it would take to produce an order, or ask why the order was not completed on time. The information he received would then affect the manner in which he responded to production or the customer. The Production Planner would, in turn, seek information about the priority ratings of the outstanding orders and thus organise his plan, as best he could, around these priorities.

The conversations at the production meetings also contained information about events that had, were or were going to take place in the factory. The topics, as mentioned previously, were mainly to do with mechanical breakdowns, lack of space and personnel discipline. The information content in my view was high. I was, therefore, surprised to receive such scathing comments about the meeting.

Alistair	What do you think of the production meeting?
Charlie Johnson	Waste of time!
Alistair	I notice that when Cyril Jenkins is not here there is no production meeting.
Charlie Johnson	Well yes, we don't have a meeting, we will go over the canteen for a cup of coffee. All we're interested in is the plan.

That's really all that interests me. There's so much talk in that meeting, but there's no follow up or anything. If you've got the minutes of three months ago, some of those bloody things are still on it today.

* * *

Alistair — What do you think of the production meeting, what do you think it's there for?

Jim Brown — Ah! Well at the moment I think that all it does is really indicate in the production department what's going on. I think it serves very little else. I think it's very rare that there's any positive action taken from the Production Meeting.

Neither Charlie Johnson or Jim Brown had much interest in the Production Meeting. Charlie stated that there was a lot of talking, and we could assume that information is contained in these conversations. Jim was a bit more explicit and stated that it did indicate what's going on in production. However, neither seemed to regard this as being important, both claimed that it failed to achieve its primary function which was to take action. I got the impression from Charlie and Jim that the information transmitted in the Production Meeting was 'old hat' to them.

Simon White, who was not so directly involved in day-to-day activities in the factory viewed the production meeting a little more positively, although he still mentioned the lack of action resulting from these meetings.

Alistair — What do you think the production meeting is used for?

Simon White — It gives some people a soap box on which to air their views (Mike Shilling) But um - it's um, always useful just for a quick exchange of views. It's to let everybody know what problems other people are getting, and lets them get things off their chests. I don't think it solves every problem we've got right away.

I'm more of an observer, but I find it useful. Sometimes I get a query up in the office, where somebody asks "What's going on here?" I can say... Ah, that cropped up at the production meeting. It's good background information.

Cyril Jenkins described the production meeting as helping him "keep abreast of events in the factory." The Production Meeting served a similar purpose for me.

In summary, I think it is fair to say that the Production Meeting communicated information to those people not intimately involved with the daily or hourly activities on the shop floor. It informed outsiders. The insiders or those intimately involved in the hourly activities viewed the information with some disdain. They already knew what was going on. The insiders and outsiders defined the purpose of the production Meeting differently. To the insider its purpose was to make decisions, which it failed to do, and thus was regarded as a talking shop. To the outsider, it provided good back ground information which could prompt further investigation. For example on the 5th March 1979.

Jim Brown — We've got problems on Rotoform 2. Mike might explain that more fully.

Mike Shilling ...We've got three problems on the Rotoformer; one the heaters; two, the oil, it's pouring out everywhere and there is a water leak. I think you'll agree that the machine is now almost useless.

Cyril Jenkins Where are the heaters?

Tim Steed They're in Bristol, but we've been promised them tonight.

Cyril Jenkins So you have about half throughput.

Mike Shilling No; at the moment it's stopped completely; we're mopping up the oil, then we're going to run with more bottom heat.

Cyril Jenkins Tim; we will have to look more closely at this problem of oil leaks.

In this conversation Jim Brown by introducing the topic had obviously been informed about the event prior to the meeting. Cyril Jenkins, however, had not. He, by his questioning,was being informed there and then. He then decided that more information was needed and invited Tim Steed to look more closely at the problem.

From my observations and the above comments the Planning and Production Meetings did provide a forum where managers not directly involved in production could gather information about events in the factory. It, however, did not appear to be the only source of information available to all managers.

4.3. Social Groupings

Following on from the idea that information was exchanged when

managers get together and talk with each other, that is, when they interacted, I began to note when and where such interactions took place. Apart from those at the official meetings, managers would congregate regularly at lunchtime in the canteen, at morning coffee and afternoon tea in various offices. As I myself had lunch in the canteen and shared my coffee and tea breaks with the managers I was in an excellent position to observe these gatherings.

Within the overall middle management level of the organisation I began to recognise smaller social groupings. Certain managers would sit beside each other at lunch, congregate in particular offices for coffee and tea, and drink in their chosen pub on Friday lunchtime. I myself was part of a social group, comprising of Jim Brown, Peter Travers and Nigel Plant; we sat together at lunch, had coffee and tea in the Sales Office and drank together in the Lion on Fridays.

Another group, who sat at the far end of our lunch table, was comprised of Simon White, Mike Shilling, Ron Welch and Tom Jackson. This social group tended to have their tea in Simon White's office and drank in the White Horse on Fridays.

Charlie Johnson, Tim Steed, Mike Sampey and Roger Davidson sat at a smaller table in the far corner of the canteen; they tended to go over to the canteen for their tea and coffee breaks; they did not, however, frequent any pub on Fridays.

Martin Keyes and Sean Davies who had only recently been given managerial status, were not entitled to the free lunch. They had lunch, coffee and tea in the workers canteen where they played cards

with members of the workforce.

The remaining two middle managers were David Clark and Kevin Linsey who did not seem to belong to any particular social grouping.

The existence of these social groupings was not immediately obvious or apparent to me. They were part of a very subtle informal web. Their existence only became obvious to me after I had become sufficiently familiar with the setting. There was no formal membership to the groupings and no formal demarcation between them. I became aware of the social groupings simply through a realisation that particular managers always congregated together in certain places at particular times of the day.

I began questioning the make-up of these social groups; how and why had they formed? I first imagined that their make-up was due to their work relationships. Jim Brown, Peter Travers and Nigel Plant did work closely together and I assumed this would be true for all the social groupings. It soon became apparent that this was not the case. Mike Shilling spent more time on work-related issues with Jim Brown and Nigel Plant than with Simon White or Ron Welch. The same appeared to be true with Ron Welch and Tom Jackson. The close working relationship between Jim Brown, Peter Travers and Nigel Plant did contribute towards the formation of the social group, but this did not appear to be the only reason.

Simon White, Mike Shilling, Tom Jackson and Ron Welch were all ex R.T.G. Boxes men; they had been drafted into R.T.G. Plastics

when demand fell for cardboard containers and rose for plastic containers. Even though they had been at Avon for eleven years they still talked about the old days in Boxes; they shared a similar personal history. I imagine they 'stuck together' when they first came to Avon and simply continued as a social grouping. The group seemed to hold together more through mutual tolerance rather than genuine affection. I got the distinct impression that Simon White did not particularly like Ron Welch, and was known to cast aspersions on Mike Shilling's character.

Charlie Johnson, Tim Steed and Mike Sampey had been at R.T.G. Plastics for practically their whole working lives. Charlie and Tim were extremly good friends in the factory and socially. They supported each other in meetings and respected each others' knowledge of the factory. Mike Sampey associated with Charlie and Tim mainly I think, because he was part of their era.

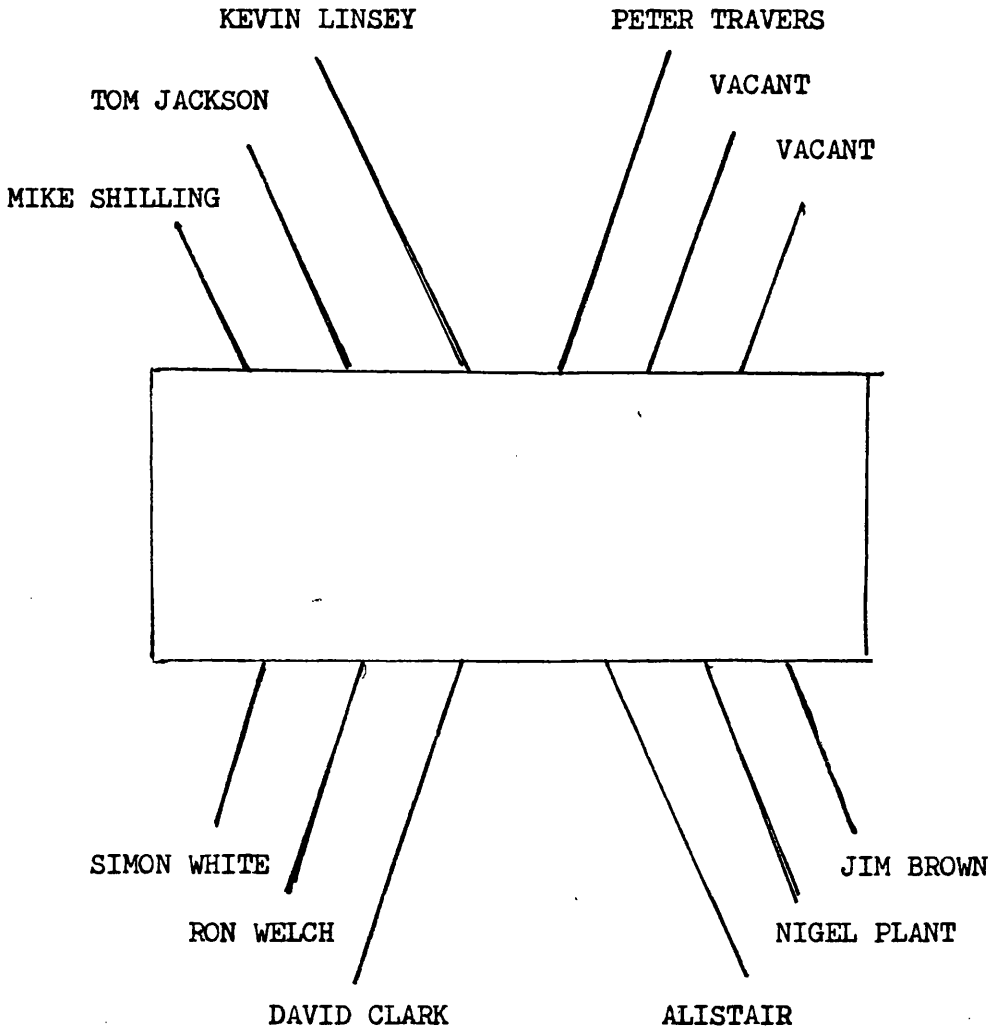
Jim Brown, Peter Travers and Nigel Plant, in addition to their close working association shared other things in common. They were all fairly new; they were in their middle twenties as was I; they were married and owned new houses; they shared interests in motor cars and motor bikes; they each had an enthusiastic approach to their work and were consciously developing their careers.

David Clark and Kevin Linsey, as I mentioned, did not seem to belong to any social group. They tended to regard their position in middle management as being purely temporary, and placed their affiliation squarely with senior management.

The social groupings appeared to have formed because the members shared a similar personal history, had a similar perspective or stance and shared similar interests.

4.4. Setting Specific and General Information

Having recognised these social groupings I began noting the topics of conversation. Access to data from my own social group was easy, I could freely join them for tea or coffee and enter into the conversation. My presence in the other social groupings was more conspicuous; however I was often invited to stay for coffee if I was already in Simon White's office examining the Production Record Charts or enquiring about MADCAP. The table lay-out at lunch was as follows, and my position permitted me to overhear conversations from Simon White's group as well as participating in my own:



The majority of conversations that took place at break times were of a general nature. Politics, sport, current affairs, local events, local intrigue, rising interest rates, car purchase, entertainment, including television programmes, films and local galas, do-it-yourself home improvements, vegetable growing and so on. The topics under this banner of general conversation were endless.

Conversation also centred around events relating to organisational issues as distinct from those in the factory itself. The newly introduced Staff Management Committee inspired much talk and speculation. Chris Davis' restructuring of managerial personnel was a favourite topic. The proposed expansion plans were at the forefront of most conversations especially towards the end of my stay, when the work actually commenced. Six Portacabins were purchased to house the office staff during the alterations. Large neoprene tents were used as temporary warehousing. The sales department building were demolished after considerable effort; it had been a blast proof building during the last war; all these events inspired much talk. Chris Davis' pending operation on his back created much interest and speculation, "who would take over the reins?" "how long would he be away for?". Appointing the new Personnel Officer generated great interest. David Wright's move to Lansdown Street, the purchase and installation of the new Extruder, visits by specialists from Van Dam Printers in Holland, the Lorry Drivers' Strike, the mysterious disappearance of raw material (subsequently found to have been an accounting error), union unrest in the Printing Department, the introduction of the self appraisal scheme, the annual salary review,and many other topics all inspired the managers to talk. Again such conversations might take place in any organisation.

At a more personal level, the lives and personal characteristics of other members of the organisation were discussed. These gossip sessions generally took place at coffee and tea, where there was more privacy. Rarely was somebody's personal life openly discussed at lunch. For example; if Jim Brown were to comment on Mike Shilling he would not do so when Mike's social group was present. There was a definite stigma attached to being seen to be a gossip. I suspect that all managers did gossip, although I was only a party to the comments made by Jim Brown, Peter Travers and to a lesser extent Nigel Plant. I was associated with this social group and thus was excluded from some conversations in the other groups.

I have stated on page 26 that there was an implicit social rule that one did not discuss work over lunch; this rule was not as strictly enforced at coffee or tea. Events that had taken place, were taking place or were going to take place in the factory were discussed at lunch; however such conversations were for general interest rather than designed to solve a problem or result in a decision. Jim Brown or Peter Travers would comment on an unusual or striking incident in the factory which they had direct involvement in, or had heard about, simply because they felt it was of interest, not to elicit aid in solving the problem. For example; at lunch:

> "You know on the Extruder last night." Said Jim. "They ran natural then blue. This morning we had to go back to natural, you know why?"
>
> "No." We replied.
>
> "Because some silly bugger put a load of breeze blocks

against the octabins and they couldn't get any natural regrind out; that means I have lost four hours of extrusion time."

Jim mentioned this incident out of interest, or because he thought we might be interested in it. It was not his intention that Peter, Nigel and myself should go out and remove the breeze blocks, or even devise a way to avoid it happening again. Many such conversations arose over lunch. Interesting tidbits of information about events, which had come to the attention of one member of social group would be shared with the others.

Coffee and tea breaks were not treated with the same rules as the lunch break. An important event, with implications for other members in the social group might be discussed over tea or coffee with the intention of arriving at a solution. Often the coffee or tea break did not result in the stopping of work, a discussion might continue through the break.

In many cases not all the members were present at tea or coffee. Ron Welch, renowned for appreciating his breaks would invariably be in Simon White's office at the appointed time. Tom Jackson and Mike Shilling, through pressure of work, often missed the break. At lunch, however, there was a definite stopping of work. If a manager were to arrive late a certain amount of ribbing would take place by other members of his group. On one occasion Mike Shilling appeared ten minutes late; Simon White commented on this:

"Doing overtime again, Mike?"

"Very funny! That de-nester was not designed for circular lids, I'm up to my bloody ankles in waste."

When we, on the Working Party, arrived a full half an hour late because of a meeting with Chris Davis, Ron Welch said, "Oh I thought you'd be eating in there" pointing to the senior managers' canteen. Senior management lunched at one o'clock, whereas the middle managers lunched at twelve o'clock.

In conversations,which were based on hearsay, there was an implicit absolver of the authenticity of the account. When the topic was of an important or sensitive nature, an explicit absolver was often added, such as; "I can't swear to this but," "I don't know if this is gospel but" or "the way I heard it was." This meant that in some cases the content of the conversation might be suspect. Managers had to filter out those aspect which they regarded as being legitimate. As the content was not intended to be used for decision-making or action-taking many suspect conversations passed without eliciting comment and were subsequently ignored.

The social groups acted as pools where information about events taking place in the organisation as a whole and about the personal lives and characteristics of the members could be shared with each other. This enabled each member to construct a composite or at least a fuller picture of what was taking place within his own setting. Managers, through their daily activities encountered numerous individuals and observed a multitude of events. No single manager could be aware of every event or every aspect of every event. The social groups and their conversations were a means by which the managers could fill in the missing pieces. They were undoubtedly a means by which the managers could find out what the hell was going on.

Much of the information contained in these conversations was specific to the setting, however it was rarely specific to a task. These social groups were the grapevine where information or gossip could be transmitted freely throughout the setting. The social groups, in pooling information, acted as accelerating points. Information gathered by interaction and observation throughout the day were pooled and then passed on in later interactions with persons outside the social group. Through this process the spread of information was increased. Jane, who gathered tidbits of information throughout the day in her office, rang round the other secretaries whilst on the switch board. These secretaries passed on the information they received from her. They then reciprocated by informing Jane about events they had observed or had heard about, which she passed on to Mary and myself. We were not part of the same social group as Jane.

It was interesting to note that certain information disclosed in the social groups was not subsequently passed on. Towards the end of my stay, Jim Brown was informed by Chris Davis that on Charlie Johnson's retirement he was to be promoted to Departmental Production Manager. This, in itself, was expected by all. What was not expected was that he was to be in charge of Extruding and the Print Room. This meant that he was taking over a section which until then had been Mike Shilling's responsibility. Jim confided in Peter, Nigel and myself, but it was understood that this piece of information was to go no further.

There was a subtle but very important distinction between the role of an informant and the role of an informer. By gathering information,

passing it on to members of one's own social group and then subsequently passing it on to members from other social groups, one was an informant, providing that the information did not have adverse implications for a member of ones own social group. If one passed on this latter type of information one was regarded as an informer, a role which had an unpleasant stigma attached to it.

4.5. Social Groups and the Process of Informing

What role did this type of interaction play in management information? The most important role was that, in providing a composite picture of events and of the personal lives and characteristics of the members of the setting, a manager could see the implications that these events might have for himself or for his task. Managers on hearing a piece of information could say, "Now how does this affect me?" or "Now how does this affect my job?". In discussions about Chris Davis' management reshuffling, you could almost hear the managers at lunch thinking "Where does this leave me?" Such information permitted managers to be strategic. On another level a piece of information might prompt a manager to investigate the event more thoroughly, because it might have implications for his job. The incident cited on page 125 where Mike Shilling mentioned that he was up to his bloody ankles in waste, prompted Peter Travers, who overheard the conversation, to call in on the stores after lunch, to check the stock level of the lids referred to by Mike Shilling. He then went to the Print Room to see the extent of the waste. The purpose of these visits was to ensure that there were sufficient Birds Eye Melba lids to be dispatched the following day.

In a similar vein Charlie Johnson related this incident:

Charlie Johnson

There's a lot goes on toolwise that just comes out by sheer accident. This is only a small incident but it is the sort of thing. We've got a plaster form machine; it's basically obsolete, a poor buy really, it's now surplus to requirements. The buzz goes around that they're going to sell it, and they've had one or two people in to have a look at it and so on. And I then say to Tim, at lunch, "When's the bloody thing going?"

"Oh it's not going yet."

"Well why isn't it going yet?"

"Didn't you know we might sell this to Australia; we've ordered three tools for it."

"Oh!"

"Yes, we're going to try polypropylene in it and if it works we're going to sell it."

That sort of thing, you know.

In this incident Charlie Johnson had learned about an event that could have implications for his department. Trials of new material required a skilled operator, drafted from his regular activities, leaving a gap in production.

Gossip about members of the setting aided managers in constructing a profile of the individual. This enabled them to make a judgement about the personal reliability and competence of the individual. Mike Shilling was judged to exaggerate; Kevin Linsey was described as a

worrier or flapper; David Clark was nicknamed 'Diddy David' and was viewed with some amusement. These opinions played an important role in the information process, as we shall see later.

This information had an important role to play in the daily activities of the managers concerned with production. It did not seem to provide a sufficiently specific or detailed account of events which required action by managers. The next phase of investigation was to study how managers gathered information during their working period, when they were on the shop floor or in their offices. How did managers gather task-directed information, i.e. information specific to their work? I already had a fairly good idea of how they did this, from my own observations, talks and interviews.

4.6 Gathering Task Directed Information

The means employed to gather information by the various managers differed according to the nature of their work.

Mike Sampey, the Material Buyer, could rely on material requisition slips and material returns to compute the existing stock levels and thus determine when to re-order. Only when new or experimental material was used did he enquire informally as to the results. Mike Sampey's informal information relating to his work came primarily from his oustide contacts, namely the Sales Personnel of the Material Suppliers.

Simon White and David Clark were primarily concerned with processing data supplied to them through the formal channels. Only when a peculiarity occurred, or when an obvious mistake was spotted did they

personally investigate, or seek information. Simon White, however, waswell informed of current events in the factory. He purposefully sought what he described as good background information, through his social group at the Production Meeting, by observation and through interactions on the shop floor; this information was not crucial to his work. This desire to be in the know will be discussed later (see page 244)

4.7 Charlie Johnson and Mike Shilling

Charlie Johnson and Mike Shilling, because of their close physical proximity to the production process and because of their intimate relationship with their supervisors, chargehands and operators were well informed about events that had taken place, were taking place or were going to take place in their own departments.

Both managers relied on their own observations. The two managers spent most of their time on the shop floor, amongst the machines. They were thus engaged in almost continual observation of events as they were taking place. Charlie and Mike were watching what was going on. In addition, both managers through constant contact with their supervisors, chargehands and operators gathered information about events that they did not actually see for themselves. In the following comments Mike stressed the importance of informal information gathered through his observations and contact with his personnel.

Alistair — How much word-of-mouth information do you use in a day?

Mike Shilling — Oh, day-by-day, a fair old bit I think. I think

one of the biggest effective ways of keeping the thing ticking within the department is obviously fairly regular word-of-mouth contact. How about this or how about that? There's no doubt about it. When you're in a production environment most of what you're involved in is word-of-mouth quick-fire decisions.

* * *

Alistair — I see you spend a lot of time on the shop floor?

Mike Shilling — Yes, probably more than I should. Problems can happen anywhere at any time, usually all at once. You can't see everything, but we like to keep in touch as much as possible.

Alistair — Do you receive much information from the setters?

Mike Shilling — Well...to be fair, the setter is a "class one" man. Three or four of my people have been working on the machines for many years now, and they are in a more perfect situation - shall we say - to record or tell about the problems that they experience.

Alistair — How much of your communication is with your supervisors?

Mike Shilling — About 60%

Alistair — So, all in all, you gather a lot of your own information?

Mike Shilling — Yes, that's right, from whatever source, not much of it is official.

Charlie Johnson supplied me with a brief outline of his daily

activities in terms of gathering information. Charlie, like Mike, mentioned the importance of both his own observations and contact with his supervisors.

Alistair — What do you spend most of your time doing?

Charlie Johnson — I wish I knew, I wish I knew at the end of the day what I bloody did today. What have I done today? I come in, usually I walk around the yard and the floor, come into the office. I ask the supervisor what's happening today? What's happening now? Are they all running? Are they making the rate? Then I ask them to make sure they take a reading. Any one out? Things like that.

Alistair — So you're gathering information?

Charlie Johnson — Yep! I'm gathering information.

It would appear from the above comments that Charlie Johnson was fairly methodical in his approach to gathering information. On arriving at work he always looked around, before even taking his coat off. He then questioned his supervisors. Mike Shilling reinforced this point:

Alistair — Has anybody asked you what figures you need, has anybody asked you what information you want?

Mike Shilling — M-m-m no. But to be fair, as far as I am concerned, I think I've got all the short term information I need. This is the day-by-day stuff which I collect myself or the blokes

do it for me, I collect that daily I'm concerned here with the speed or effectiveness that we're running the plant at.

The fact that Mike Shilling gathered the information that he needed implied that he had some preconceived idea of his information requirements. He then methodically gathered that information on a daily or, as we see from the following comment, on a shift-by-shift basis.

Alistair — How do you measure the speed of the machines?

Mike Shilling — The speed is done on a shift-by-shift basis; then if there are any problems I ask why we are not achieving the speed.

Alistair — Is this information passed on to Cyril Jenkins?

Mike Shilling — He, as far as I'm concerned...No, not from me. As far as I'm concerned he will receive it from the management information thing which is passed through a week later. I'm working hour by hour. I'm working on a...what's the situation on a job? As far as I'm concerned it's my job to effectively run the department and therefore I'm doing that hour-by-hour and my supervisors are as well.

Although Mike Shilling collected information in a methodical routine manner, he was essentially informing himself; he was not gathering information for general circulation.

Charlie Johnson made a similar point in a continuation of his last

comments record above.

Charlie Johnson — And then Jenkins appears on the bloody scene, and he wants to know what I know. So I've got to give him the same information.

Alistair — Does he do this every morning?

Charlie Johnson — He generally used to come down about half past eight, he doesn't do it as much now. When I talk to him I might make some complaints. I might go into his office during the day and make some complaints. For instance, we had a problem last night with bringing stuff in, we had two blokes out sick. That kind of thing. He may know they're out sick, but he doesn't know the problems we've got.

Alistair — So in the morning you gather information then you report that to Cyril Jenkins?

Charlie Johnson — No, no, sorry! He comes and gets the information. The only thing I point out to him are the problems I've got.

Charlie Johnson was emphatic that he did not supply information to Cyril Jenkins except when asked, or when he had a problem that required Cyril Jenkin's assistance.

Apart from the methodical gathering of information to inform themselves, Mike Shilling and Charlie Johnson recieved a considerable amount of information concerning unexpected events.

Charlie Johnson — Robin said to me "RDM5 will be running out sometime

today, about midday." Why's that?" "Because we ain't got any more bloody material." This is the sort of thing we're getting all the time.

If an event took place on the shop floor in Charlie Johnson's absence, the supervisors could be relied on to report the event to him at the earliest possible opportunity. Charlie Johnson had considerable respect for his supervisors and pointed out that they would often make decisions about minor events prior to informing him.

Charlie Johnson — If these fellow (pointing to Robin Slater) think there's a lot of granulating to do, they say "We'll bring a bloke in on Sunday" and then they will tell me or show me their list.

Robin Salter confirms:

Robin Slater — Yes. Now if I see this morning that there's a lot of granulating to be done, or the yard's in a mess, I'll get somebody to stay on. If I think it needs somebody tomorrow, I'll leave a message with the supervisor this afternoon, to say can you ask someone to come in at ten o'clock tomorrow morning.

The above comments raised an important point. Both Charlie Johnson and Robin Slater made reference to written information. "And then they will tell me or show me <u>their list</u>," and "I'll leave a <u>message</u>." This meant that not all information was transmitted verbally; managers and supervisors had recourse to written information in the absence of the other party. The use of informal written information was particularly noticeable at the change over of shifts.

Alistair — Do you have hand-over reports at the end of each shift?

Charlie Johnson — In our section Yeh! We have a standard form with all the machines on, which these guys (pointing to Robin Slater) would tick off RDM1 and put what was running on that: give him a tick if he's running O.K.; make some comment on there like 'nice one,' 'rough cut' or whatever. And in the office they have a communication book as well. 'Fred Paint didn't turn up last night,he was sick with tonsillitis' or I might leave a message to pass on. It's a series of passing on one to the other.

Alistair (to Robin) — Do you wait and speak to the guy who comes in after you?

Charlie Johnson — Always...Always.

Robin Slater — Yes, ten, fifteen, twenty minutes, maybe half an hour. I run through our sheet, obviously the sheet only covers the production machinery. Obviously you've got to pass on information about the granulator, or what's happening out in the yard or materials. In the mornings the night shift supervisor's got to pass it on to two supervisors.

Handover reports were filled in and a communication book used. However the supervisors agreed that they should meet at the shift change-over to verbally pass on information in greater detail and include events which were not covered by the hand-over reports. These hand-over reports were not circulated; they were designed by the managers and were used to inform themselves.

Mike Shilling makes a similar point in reference to his department.

Alistair — Is a three-shift supervisor cover important for effective control?

Mike Shilling — It's important for effective continuity. The fact that we've got double shift cover is better than the day shift, because at least at either end of the shift, the night shift, there are people who can pass comments on. Which was never there before. It's not ideal but we've got to do the best we can with the double shift situation. Bearing in mind that I do impress upon the supervisors to make sure that at the beginning and the end of the shifts they do find out what's going on, and if there's any problems, "for Christ's sake try and sus them out, or at least point the night shift bloke in the right direction."

Alistair — Do the supervisors have to produce a written report at the end of the shift?

Mike Shilling — They obviously use the production charts for all the comments on an ongoing basis. They have a form which they make out every shift which I insist on; which is basically a résumé of what's gone on during the shift, what the situation is at the end of the shift, together with things like the estimated rates or actual against estimated strokes. Then comments about any problems that have to be looked at or tackled in the early part of the next shift.

It is interesting to note from the above that Mike Shilling mentioned the comments on the Production Record Charts. Charlie Johnson had

already commented that he had no time to look at them. I had previously asked Simon White what use was made of these comments.

Alistair — The comments on the production forms, are they ever recorded or anything?

Simon White — No, they're only used as "what the hell went wrong? Let's have a look at those sheets." They're not necessarily summarised or collated or done as a matter of course. They're only back-up information when something has gone wrong.

Now Mike Shilling had highlighted a situation where he informally used what was essentially formal information. Continuing on this vein I asked Mike Shilling the following question:

Alistair — Do you think anybody else makes any use of those comments?

Mike Shilling — On the Production Charts...I'm still doubtful as to whether the actual comments are used by anyone, other than in the department. On the other hand, when you think about it, most of the comments are departmental comments. I think 80% or 90% of things that happen are - yes things that I should know about, or the supervisors should know about - which build up a picture either of that run or what might happen on the next run. I think the important thing is what you're never going to get - management information wise or whatever - you're never going to get specifics. You're always going to get percentages. You're never going to get the specific instances where you might explain what

or why a mould was faulty. You can't put that on a management information form. But that chart does. The supervisors look at them every day. I look at them every day and obviously all these comments are either used by me or noted.

Mike Shilling re-iterated his view of the limitations of formal information and emphasised that many of the events that took place in his department were departmental matters, which need not be included in the management information system.

Alistair — Do you pass much of this information on to Cyril Jenkins?

Mike Shilling — If it is important enough, or if he specifically asked me to sort something particular out, then I would go back and say this is what I've organised but, of course, much of the stuff is just keeping the thing ticking over and it's basically quickfire stuff. Much of the day-to-day things that go on are minute-to-minute decisions that have to be made...whether you limp on with the job or whether you get the fitters to sort it out, this sort of thing. All these things have to be pro'd and con'd.

Mike Shilling implied that he was unable to supply Cyril Jenkins with all his information because most of it related to minute-by-minute decisions or a great portion of it was not important enough for Cyril Jenkins to be bothered with. This, combined with other comments, led me to believe that he had a deliberate strategy not to inform other persons, especially Cyril Jenkins of events which he regarded as being purely departmental matters. By withholding information from

others Mike Shilling could minimise interference in his department.

Charlie Johnson expressed his dislike of interference in what he regarded as his departmental matters:

Charlie Johnson — This particular tool, this is the worst one, I had to pick the worst one. We put it in, we had the bloody thing in one machine, we had it out, we put him back in, we had him out, put him back in. We tried him in another machine and eventually got going after a fashion. It was a struggle, a mighty struggle. After it's been running for ten days or a fortnight the problems had been forgotten. Then it comes up again, you say that was a bastard last time. They say oh, it ran alright, you were ten strokes or twelve strokes. That'll be the sort of bloody comment.

Charlie Johnson had plans to contend with such interference by people who, he thought, did not know what was going on.

Charlie Johnson — What we are going to do is to have a history card with the tool. So on any run with the tool, the date it goes in and all the faults on that run will be put on that history card so that in two months time when there's a bloody inquest on it. When they say why did you only run so fast that time when you ran so fast last time? I'll say "hang on a minute, here's the bloody history card; that's what happened last time, we had six water leaks, the bloody dye was buggered up or hairy cut or all sorts" and we can throw it back at 'em.

Alistair — Will that card be sent to somebody,say like Steve Baker?

Charlie Johnson — No, it bloody well won't. It will be kept in our office.

Alistair — As a record for you?

Charlie Johnson — Yes, as a record for me.

In this instance Charlie Johnson was being strategic in his collection and use of information. He deliberately gathered information to protect or defend himself against future investigation. However such an investigation could be averted. If Charlie Johnson circulated the history card his superior could then see the problems on that particular job and avoid making a comment which would annoy Charlie Johnson. It seemed that Charlie Johnson would prefer the manager to investigate so he could have the pleasure of getting one over on him - "I'll say, hang on a minute, here's the bloody history card." We can see from these comments that information was not used simply to know what was going on, but could be used strategically: withholding or introducing the information at the most effective time to fulfil the manager's own strategic purposes which might simply be for sport.

Although some events that occurred on the shop floor were 'departmental matters.' In many cases outsiders had to be involved in the event, either to provide information or aid in solving a problem. Outside contact was principally with Jim Brown, the Planner and the Maintenance Department.

Mike Shilling — A situation, where, say the order is for 300,000 and we've made 280,000. I think, oh bloody hell, what's gone on here? I wonder

if we've had any problems. Then I might say to the planner "Look Jim, this looks a bit funny. Do you know what happened to this?" He might know there was 1000 kilos short on delivery.

* * *

Robin Slater — You've got to go and find a lot of information. For instance on the Waddington. We've now got two pallets of material left. Now as far as I'm concerned if I'm not told, at the end of those two pallets, I'd put the next job in. It appears now, because we haven't got any space in the extruder plant, I've got to stop down for three or four days until there's space on the extruder. I had to ask Jim what was next on the Waddy. He didn't know about the material problem, so he had to go and find out about it, then come and tell me.

In both these cases contact with an outsider, Jim Brown, was sought to gather information about an event that was taking place or was going to take place. It is interesting to note that in both instances Jim Brown was contacted. The problems were to do with material; rather than going to Martin Keyes, the Material Controller, Mike Shilling and Robin Slater chose to go to Jim Brown who they had more respect for. Jim Brown complained about this.

Jim Brown — The problem I'm facing is that I'm probably not planning as much as I should do. I probably spend 50% of my time running round amassing information from the sales office, investigating shortages in production and problems in production.

Jim Brown was viewed as a reliable and accurate source of information and was used extensively by other managers.

If a machine was down due to mechanical problems, the Supervisor or Departmental Manager would make contact with the Engineering Department. If more than one machine was awaiting attention a priority system was introduced. Extruders were number one priority and so on. It was possible, however, to circumvent this priority system.

Charlie Johnson — It's not too bad now, 'cos each machine has a priority number. There might be a clash when the other bloke (Mike Shilling's department) thinks their priorities are more important.

Alistair — Then what do you do?

Robin Slater — When we have a clash I go and see (the Engineering Foreman) and we decide what we're going to do.

Robin Slater had been at Avon for many years, in fact he was the longest serving supervisor; his knowledge of the factory and his friendships with the engineers and so forth often resulted in him receiving preferential treatment over Mike Shilling's department, where he and his supervisors were fairly new. Charlie Johnson was a personal friend of Tim Steed and invariably sought his advice and help rather than relying on the Engineering Charge Hand. Because of Charlie's and Robin's considerable experience on the shop floor and of the personnel, they knew exactly where to go to find out a piece of information. This point will be raised more fully in relation to Jim Brown's and Peter Travers' gathering of information.

In summary: the Departmental Managers used a combination of observation and interaction with key individuals to inform themselves of events. The gathering of information for their exclusive use was done on a regular basis through verbal exchanges, receipt of departmental forms and hand-over reports. Information was gathered from any source, official or unofficial. In addition they received a constant supply of information concerning non-routine or unexpected events.

Information was used strategically, that is, it was withheld from individuals outside the department and or was kept for defensive purposes. Contact with outsiders was selective, based on the managers opinion of the reliability and competence of the individual concerned.

4.8 Jim Brown

In contrast to Mike Shilling and Charlie Johnson, Jim Brown and Peter Travers did not enjoy a close physical proximity to the production process, nor didthey have constant contact with supervisors, charge hands or operators. Inspite of this Jim Brown and Peter Travers were extremely well informed of events on the shop floor and in each others departments. In the very first conversation I had with Jim Brown the topic of gathering information came up.

Alistair — As a planner what do you do?

Jim Brown — The way I see my function really, is to amass all the relevant information that's needed to translate our customer requirements into a production plan, and at the same time read in some degree of sense. In other words to meet

our customers' requirements while at the same time minimising wastage within our own areas.

Alistair — Where do you amass the information from?

Jim Brown — Well, generally speaking, I suppose I get it from a number of sources. I try to use the sales guys as much as possible. I spend a lot of time communicating with the Account Executives. I also try to use the technical people as much as possible obviously, because I've got a technical background I try to use Steve Baker, Tom Jackson and Kevin Linsey as much as possible. Generally speaking I just try and use my knowledge of this place and the people that work here to get as much information as I can about production.

In these comments Jim Brown stressed the importance of contact with people who had direct involvement in the area he was interested in. Jim Brown spent a considerable amount of time in the sales office discussing issues with Peter Travers and the Account Executives; gathering information on delivery dates and customer priorities. Jim would then use this information in preparing his Production Plan. Jim would also use other sources of information to arrive at a balanced plan to "meet our customer requirements while at the sametime minimising wastage within our own areas." He mentioned that he used the technical department; I then asked the following question:

Alistair — What kind of technical information do you use?

Jim Brown — Well! There's a lot of fallacies been built up over a long period of time about what we can and cannot do. The system as it was; the way it

used to run was governed by a few people who said yes or no, we could or we couldn't do something and that was it. So what I try to do really is to get the information from the people who should know. Ah, in other words, from people who know the capabilities of the machine, from a purely technical aspect, instead of the people who say "Ah, we tried that ten years ago and it didn't work so we're never going to use that again." So I try to gain information in that way.

Jim, in the above comment, implied that he was selective in who he chose to be informed by. He used Tom Jackson, his previous boss, Kevin Linsey, the very competent Plastics Technologist, and Steve Baker, the Engineering Manager. Jim was also selective in his acceptance of information; he would disregard that which he felt to be unreliable or invalid. Jim by virtue of being the Assistant Quality Controller had a thorough knowledge of the workings of the factory,and relied on this knowledge to validate information he received.

Developing this theme of selective contact I asked the following:

Alistair — Do you use the Departmental Managers a lot - Charlie and Mike?

Jim Brown — Yes. I communicate a lot with Mike; Charlie is a little bit more difficult to communicate with. I think possibly with Charlie's section I probably have morecommunication with his supervisors. I think there's a slight difference between the two departments. In Mike's department, because it's a double shift

operation, Mike's there most of the time. Mike is probably far more aware about what's going on in his department than Charlie. Charlie has a treble shift operation and his supervisors are a lot more experienced. They probably tend not to communicate as much to Charlie as they should. But in the same way they're far more aware than the other two supervisors about what's going on, and so on that basis I tend to communicate a little more with them.

I was slightly surprised by these comments on Charlie Johnson, nevertheless it reinforced the point that Jim was selective in choosing the person he wished to be informed by. In the case of Mike Shilling's department he chose to be informed by Mike himself, as he regarded his supervisors as being inexperienced. In Charlie Johnson's department he chose to use the supervisors who he regarded as knowing more than Charlie himself.

To conclude this conversation I asked the following:

Alistair — So you go to the people who you know will know what you want to find out?

Jim Brown — I try to do that. I think there are two things to think about here. I think to a certain extent - I mean I've worked on the shop floor; I know what the situation's like down there. They tend to feel that decisions are taken without anybody bothering to consult them about what can and what cannot be done, and I think that's a very dangerous thing - so whenever possible I try to communicate with the supervisors and even the extruder operators and people like that... O.K. sometimes you have to make a decision where people are told to do something they don't want

to, or feel that they can't do. Although I do try to communicate with them and tell them why I still have to make the decision.

Jim stressed the importance of letting people on the shop floor-"even the setters"-know what was going on. A two way process of communication existed; Jim was informed about events that took place on the shop floor; he in turn informed people on the shop floor of events that might affect them. Information was reciprocated; I shall return to this later.

4.9 Informant Networks

Jim Brown had developed an informant network. He selected key individuals who he judged as being competent and who could provide reliable and accurate information about events that had some bearing on his job as planner. Paramount to the informant network was the concept of reliability. Not only did Jim require reliable information about events, he also had to rely on his informants to inform him, when untoward or important events were taking place.

Jim Brown — The feed back from the factory is now far, far better. Generally speaking if a machine is shut down for more than about an hour I will be told why...and when it will start again.

Alistair — While it's happening?

Jim Brown — Yes, while it's actually happening. If there are any major problems I get involved in it pretty quick. I'm quite pleased with the flow of information out of the factory.

Alistair — And who does it come from?

Jim Brown — Mike, Charlie, Ron, Robin, most people down there, depends who's on and who's available.

Alistair — They actually come over to you?

Jim Brown — Yes, they come to me. But if I'm there I'll ask the questions when I'm there. I spend a lot of time in production but if I'm not there they'll come to me.

Alistair — Do you, in turn, keep them informed?

Jim Brown — Yes, it's a two way thing.

This conversation throws up a number of interesting points. Firstly, Jim felt fairly confident that he could rely on individuals on the shop floor to inform him of important events. A single machine shut down for one hour could significantly affect Jim's plan for the week. Secondly, Jim mentioned that there was a two way relationship; Jim received information from his key informants and in turn informed them. Information was exchanged; it was a process of mutual informing. The exchange of information was not based on any concept of relative worth or bartering. An individual would be willing to pass on information, whatever its magnitude, if they could rely on the other to keep them informed, possibly at some later date. Thirdly, Jim mentioned that feedback was now far, far better. In a previous conversation I asked the following question:

Alistair — You've got your formalised plan; changes sometimes take place; how do you get information about the things that cause it? Say breakdowns, how do you find out about things like that?

Jim Brown — Well I think the feedback about breakdowns and machines in general is bloody diabolical. The responsibility for that I'm sure lies in two areas; one must be with the Departmental Managers, and two must be the Engineering Department. The feedback's lousy. Normally I find out by getting my arse down on the shop floor every morning and finding out; asking questions.

Alistair — So you actually go and ferret out a lot of information yourself?

Jim Brown — It's a case of having to, 'cos otherwise you just don't get it. And obviously if you haven't got the bloody information it makes you look like a bloody idiot, which means that your credibility suffers and people think you don't know what you're talking about. The reason is because you're not fed with the correct information in the first place.

The above conversation was in early February. Jim was still finding his feet as Production Planner. He had only just developed a formalised plan for the factory and it appeared had difficulty with information in the factory. At this stage Jim had not developed his informant network. He could find out what he needed to know "by getting my arse down onto the shop floor every morning and finding out; asking questions." He could not however, rely on individuals on the shop floor informing him, this came later. Charlie Johnson and Mike Shilling by being in charge of their departments could instruct their supervisors, charge hands and operators to keep them informed. Jim had to ask them. He had to develop his informant network, develop relationships with individuals who he could then rely on to inform him with reliable information.

Once developed, the informant network was by no means a fixed, structured system. The network was in a constant state of flux. In March Jim had stated that he relied on information from Mike Shilling and had difficulty with information from Charlie Johnson (see page 147) In the following comments, recorded in July, the relationships were reversed.

Jim Brown — Well you see I have to run round and get information. I think I've got a reasonable amount of respect from the supervisors. And I think I've got a reasonable amount of respect from Charlie Johnson. As far as Mike's concerned I think there's a certain form of animosity between Mike and I. I've got no personal quarrels with him, but Mike is...ah...I think he's somewhat annoyed that we've managed to establish some form of planning because he said it couldn't be done. And from that point of view I'm in constant conflict with him. The feedback from Mike is very poor to me. I have to run round and get information from other sources about his department which I shouldn't do.

I was, at first, troubled by this inconsistency. I was naive enough to assume that by rolling back the structured formal system of the organisation I would find an equally tidy structured informal system. The informant networks, however, were in a state of flux. Relationships between managers were subject to interruptions; conflict could devlop between managers, interrupting the flow of information and changing the make-up of the informant network. These interruptions could be more or less permanent. In the case of Mike Shilling and Jim Brown conflict was often in the air. Jim's success as a production planner was threatening to Mike; rightly so; Jim was ultimately given control over one of Mike's departments. Conflict

between Jim Brown and Charlie Johnson was less lasting, a brief flare-up. Conflict about a minor change in the Plan might cause hostility between them; such incidents were usually soon forgotten.

When conflict occurred Jim would have to rely on other sources for information. In the case of Mike's department, Jim may have used the supervisors or charge hands, or would rely on Peter Travers; the relationship between Peter Travers and Mike Shilling was less thorny.

Jim Brown took his role of supplier of information seriously. Providing correct reliable information was important to Jim. Nurturing the informant network required that the members of it could rely on Jim to inform them with reliable information.

Jim Brown

> Chris has said that I'm solely responsible for communicating to the commercial department what is going on in production. Now I find that, that being the case, I have to use my own experience on the quality of information I get, and obviously I'm luckyenough to know a reasonable amount about production.
>
> Most of the information given to me I will have a reasonable idea whether or not it's true or accurate. But if I do get given a piece of information which I don'tthink is correct then I might go the backhanded way and check it. Quite simply because I'm solely responsible for communicating with the sales office. If that's the case I feel I must ensure that the information I've got is correct before I take it over to them. And sometimes I have to go through ways that I shouldn't really have to to ensure that it is correct.

Alistair — What kind of instances?

Jim Brown — Well I might have to go round the back doors and double check with engineers on breakdowns, just to be sure that I'm getting the right information and the right time scale.

Jim would check on the validity of a piece of information if he suspected, through his own familiarity with the factory, that it might be incorrect. If the information had to be passed on to other members of his network he would be particularly thorough in his checks. I then asked the following questions:

Alistair — Are there any particular sources that you always check on?

Jim Brown — I always check on anything to do with the Engineers because as far as I'm concerned the Engineers are not the most consistent within the factory and so a lot of problems with the Engineers. I check with the Engineering Supervisor (Tim Steed or Steve Baker).

Jim had judged the Engineers as being unreliable and chose to check the information he received from them. Engineering information on breakdown was crucial to Jim's effective planning.

4.10 Information From Other Sources

Informant networks played an important role in informing Jim Brown of events taking place on the shop floor, but it was not the only means. As stated on page 150 Jim Brown spent a lot of time on the shop floor. "I spend a lot of time in production...." and again on

page 151 "Normally I find out by getting my arse down on the shop floor..." Jim Brown relied on his own observations to keep him informed of events on the shop floor. Jim would don his white coat (a requirement for a factory manufacturing containers for foodstuffs), and do the rounds, visiting the various departments, talking to the various managers, supervisors, charge hands and operators. Jim would visit each of his key informants, visit the trouble spots, i.e. areas or machines which he knew were having problems. Chance encounters would also occur on his rounds and he would gather information from these individuals by interacting with them.

Alistair — What other (than MADCAP) information do you use?

Jim Brown — Well obviously I get the daily totals from production, taken from the Production Charts, which I use to make sure they don't run over on jobs etc., etc....Obviously if I see any machinery stopped, I ask questions. I try to find out why it's stopped, how long it will take to get going.

Alistair — Do you ever read the comments on the Production Record Charts.

Jim Brown — Yeh! I look at them when I'm about in production to find out if there's any problems on the particular machines. When I say look at them, I only look at them from a general point of view. I don't specifically go down there every day and look at every machine chart. What I do is when I'm by a machine I'll look at them in passing. But I know most of the things that are said anyway because I get the feedback from the supervisors.

These comments confirmed that Jim was a regular visitor on the shop floor.

They also pointed to the fact that he was gathering information from a variety of sources. He observed events, he asked questions and he read the Production Record Charts. Gathering information from the various sources built up Jim's overall stock of information, and constructed a fuller picture of the setting for him. Information from various sources could act as a means of verifying the information. "What I do is when I'm by a machine, I'll look at them in passing. But I know most of the things that are said anyway, because I get the feedback from the supervisors." Information gathered from the Production Record Charts would serve to back up information from the managers, supervisors, charge hands and operators.

Alistair — There's a Communication Book, do you ever use it?

Jim Brown — I do, yeh, not to put things in, but to take things out and read it, just to see what's happening.

The Communication Book, as with the Production Record Charts, was used for general information, just to see what's happening.

Stressing the importance of regular observation Jim Brown made the following comment:

Jim Brown — We've had instances where I've planned us to use twenty per cent regrind on the extruders, and over the weekend it's not happened. The supervisor in the production department says, right, we won't run it or we can't run it, so he doesn't run it.

Alistair — Were you told about this?

Jim Brown — You know, when you come in on the Monday morning and check the level of the Silos, it's down to one per cent, and you say, "why the bloody hell's that down to one per cent?" Then you go downstairs and find that they hadn't run regrind at all over the weekend.

Jim visited the silos where virgin material was stored each Monday morning to check the level, this combined with his other observations, aided him in finding out what happened over the weekend where he claimed control was not as tight. If any detail struck him as being unusual Jim would investigate further through the Departmental Managers or Supervisors.

Jim Brown used formal information, informally.

Alistair — Do you ever get financial information?

Jim Brown — I don't get it; I've got it; I'm not given it. The first thing I did was to go and get contribution rates for every machine in the factory. I try to use those when situations arise where people ask me to do things in production where I think it's extremely stupid. One instance; a claim was made that we couldn't co-extrude at 10 thou. on the Kaufman, and I was then asked to stop production to do a trial; which would have taken me at least two shifts, which is 16 hours at 60 odd pounds an hour, just for the sake of a four tonne trial order. Obviously these are the types of things I try to look at or weigh up. Whether things are going to be cost effective in production and try to read some form of sense into it.

From these comments we can see that Jim deliberately gathered information, not supplied to him which he then explicitly used in his day to day decision making activities.

Jim Brown would also arrange to be supplied with information at regular intervals from other departments. The information was supplied by arrangement rather than instruction.

Jim Brown — Another piece of information I get now, because I've asked for it. One of the big problems I used to get,and I've raised it in production a few times,is when material is rejected from the machines, it gets fed straight back into the stores without me knowing about it. Sometimes we've had situations where maybe 2 or 3 tonnes are rejected; I wasn't told; the machines run out 3 or 4 days early without me knowing anything about it. That's been corrected now I get a slip of paper which is a carbon copy showing the amount of material which goes back to the granulating room.

Jim specifically requested this information from the storeman in charge of extruded material.

Jim Brown further gathered information verbally from particular sources at regular intervals.

Jim Brown — Each Monday, before the Production Meeting I have to go out to the Stores and get hold of the Storeman for half an hour and ask him how many pallets of this, that and everything else he's got. Now as far as I'm concerned that's information that should come to me. Again it's one

of those things I have to go and get.

Jim Brown shared an office with Martin Keyes, the Material Controller, and yet chose to go out to the Store each Monday to gather this information, rather than asking Martin Keyes, whose job it was to know the stock level of extruded material. Martin Keyes was not part of Jim Brown's informant network. Notice also that Jim Brown regarded the information as something that should be supplied to him.

Information about events in the factory and in the sales department were crucial to Jim Brown to enable him to effectively plan production, i.e. for him to carry out his job. On a secondary level it appeared to be important to Jim Brown to be informed because of his overall credibility. This issue was commented on,on page 151 when Jim responded to a question and then added:

Jim Brown — And obviously if you haven't got the bloody information it makes you look like a bloody idiot. Which means that your credibility suffers and people think you don't know what you're talking about.

Jim Brown placed a premium on being informed or being in the know. Loss of face could result if he was uninformed, "it makes you look like a bloody idiot," and again, "people think you don't know what you're talking about." These comments were made in February when Jim was still fairly sensitive about his new position but he confirmed the view in July:

Alistair — Do you think you have a good rapport with the

Sales Department?

Jim Brown — Yes, most certainly. To a certain degree a lot of my credibility depends on it. If I have not got the right commercial information about how far we can go, all I do is undermine my own credibility, and so it's got to be right.

Jim Brown viewed reliable information as playing a major role in his own credibility and status. Jim's concern for his credibility may be explained by a comment he made concerning his colleagues.

Jim Brown — It's bloody downright aggession. It really is a case of 'dog-eat-dog.' I mean I try not to get involved in it too much but it certainly is a case of personalities. It's certainly a case of "one-upmanship." People will very often go out of their way to nail your backside to the wall for fun. You know, just for personal satisfaction.

Jim, by gathering as much information as possible was able to protect himself against the back-biting oneupmanship. Thus again, as in the case of Charlie Johnson and Mike Shilling, information was gathered for defensive or protective purposes. Added to this, being well informed permitted Jim Brown to indulge in a little oneupmanship himself. In the Production Meeting on 5 February, the following conversation took place:

Jim Brown — One point, the case where 300,000 Melba lids were made on bad sheet, it's going to happen again. Bad sheet is being sent to the material store enough for 900,000 lids.

Cyril Jenkins — I don't understand that. In future we will have to impress on people that they should declare bad work where it occurs, as it causes havoc at other points.

Jim Brown — The bad sheet should have been picked up at the Extruder by QC (Quality Control), that's their area.

Here Jim shows his extensive knowledge of events, and has a go at Quality Control, his old department. I never detected any real animosity between Jim Brown and his old department, such comments were for oneupmanship.

4.11 Peter Travers

Peter Travers was in a similar position to Jim Brown in that he did not enjoy a close contact with the people and events in the factory. Information from the factory was of considerable importance for Peter Travers although not as crucial as for Jim Brown. Much information relevant to Peter Traver's work came from his customers or Sales Reps, with whom he had close working relationships.

I have already cited lengthy comments made by Peter Travers on informal information (see page 111). As with Jim Brown, Peter Travers spent "an awful lot of time in the factory just getting together that sort of information." He stressed the importance of close contact with individuals directly involved in the events he was interested in. He often used informal information to back up what he felt were inconsistencies in the formal information, using the informal information to cross reference the formal information on particularly important issues.

The use of an informant network was not as obvious in Peter Traver's case because he relied so much on a single individual to provide him with relevant and reliable information. This was, of course, Jim Brown. Although Peter Travers used the informant network less than Jim Brown the characteristics of his method of gathering information were similar.

Peter Travers relied on information to be supplied to him by members of his network, mainly through Jim Brown. Peter Travers stressed the importance of reciprocating information.

Peter Travers — It's back to the word of mouth again. We'd like to think that people from the factory can come over, which happens a lot, and they'll come over and say they've got a problem. Quality Control may have a problem with colour. We've had trouble with Bees lately. I'd like to feel they could come over here and say, "Look, we think this is acceptable, do you go along with that?" I'd like to think they'd bring us into it.

The nature of Peter Traver's work required that he spent most of his time in his office in contact with customers and Reps; he thus encouraged people from the shop floor to come over to the Sales Department to share information.

Peter Travers stressed the importance of reliable information and of choosing the source of his information carefully.

Alistair — How much informal information is rumour and how much is factual?

Peter Travers — It depends on the source actually. Informal information, rumour or whatever, from certain people you can almost guarantee as being right. With other people you can guarantee as being grossly inflated or exaggerated or whatever.

Alistair — So the person involved in transmitting the information is important?

Peter Travers — Yes, I think so (I won't go into personalities) but there are people we can rely on 100% as far as we're concerned. Until such time as something goes wrong we take their information as being factual.

Alistair — So you make some judgement about the people you're receiving information from?

Peter Travers — Yes, there's no doubt that you do, and you know, you react accordingly. If the information's from a certain source you do something about it; if you hear it from others, that's O.K. you may probe a little bit and try and find out if it's true, but you probably don't take much notice of it quite honestly.

I think what happens is that the suspect sort of information tends to be a catalyst on which you build. You hear something then you go and check on it; you probe and you try and find out what is happening. Other information then comes from that source, the legitimate information comes from the sources from which you're checking. So what I'm saying is that you may not rate the information very highly but you will go away and check to see if what somebody said was factual. And in doing that, using other sources of information you find out what you feel to be the true picture.

> There are a lot of cases still, where you think you ended up with the true picture. Then you talk to somebody else about it or you put forward your theory or something, just to find you've got the whole bloody thing wrong anyway because the information hasn't been strictly speaking correct, or there have been developments. So I think the whole area of information does come down to people in the end, individual people - certainly the individual does build up a feeling towards other people, no question about that, and decides just how reliable that person is.

In these comments Peter Travers explained how information even from unreliable sources may be useful as a starting point to an investigation and this reinforces the incident on page 125 where Peter checked up on the waste situation which Mike Shilling mentioned at lunch.

Peter Travers also mentioned a situation where he would construct what he regarded as being a full factual picture only later to find that he was incorrect. One notable case in point was where some black specks appeared on the extruded sheet. The Kaufman was shut down and cleaned; the black specks re-appeared; the Kaufman was shut down and cleaned; pure virgin material was run through the machine; the black specks re-appeared; the same virgin material was run through the Bridge (another extruder); the black specks appeared.

At this stage Peter Travers commented:

Peter Travers — The Kaufman was stripped down, they began to use some of that natural styrene on the Bridge. Only

to find that that also started throwing out dirt. So they came to the conclusion that there was dirt in the silo rather than dirt in the machine. So we had spent a week out of production cleaning the screw. A massive amount of lost production, about 7,500 tonnes. Any you ask yourself why the bloody hell didn't somebody check the silo to see if that was where the problem was?

I was one-up on Peter in this instance. I had already heard that they checked the silo only to find that no contamination was in evidence. The Production Managers, Quality Controllers, Plastic Technologists, Engineers and even Chris Davis were at the extruder; each had a theory; each communicated his theory. Speculation was rife. Finally Charlie Johnson recommended that they examined a small feed pipe, which he requested to be replaced, and which had not been done. It had begun disintegrating and thus contaminating the material as it passed through the pipe. Peter Travers thus had to alter his account of the event in light of the new information.

Peter Travers gave me this excellent example of checking the validity of information.

Peter Travers Let's give you an example of how the thing works. I think that's the way. Yesterday morning (again I'll leave personalities out of it) somebody came to me and said "I see we're running Norton collation tray; it seems to be running very quickly." Fine, but he mentioned whilst saying that, "Of course it would be running quickly, they are running on 6 thou. material." Now 6 thou. isn't the specified material for that job, 8 thou. is. So the first thing you would say was, "O.K.

would you check out the stroke rate, and if it is true the next time it's run we should increase the stroke rate." Then you would say "Thank you very much for coming and telling me the information, would you keep an eye on it, and, yes, we would be very interested to see what the effect of it is." That's the one side of it.

The other side is that he'd mentioned something completely off the top of his head; that he thought it was being run on 6 thou. instead of 8 and that's very important. O.K. that is serious because if he was right we would be producing trays far under specification. So then you say, do you ignore that kind of information or not? Well you can't afford to ignore it because it could have serious consequences, so what I then did was follow two lines of information. One, I checked the works order to make certain the specification is right on the works order so I know that this is factually correct. The other thing was to ask the people involved, in this case Jim and Production Control to make sure they are running the right material and yes, they were.

So the guy who came over in the first place had got it wrong. He is usually a fairly reliable guy. So he had got one side of the story right. The stroke rate was up. The other part of his story was incofrect but had to be checked because it had consequences, then you go and follow your well tried reliable route, to try and check what is happening.

Although nurturing the informant network was of considerable importance to both Peter Travers and Jim Brown, there were instances where slightly distorted information was passed in order to achieve some desired end.

Alistair — Do you feel you make some devious moves with regard to information?

Peter Travers — We do make some devious moves without a doubt. But having said that, it's for the best possible motive. This obviously doesn't get back to Planning and so on.

Alistair — No, no, strictly confidential.

Peter Travers — There are times when we are building in extra time, knowing that the factory cannot do what we want them to do. Over a period of months we have found that they cannot achieve what we expected them to achieve and so on. We begin to realise that it's gonna take a lot longer than they expect. So if you like we assess what we think is going to happen and we add a certain amount of time to give ourselves a bit of breathing space. So we're putting pressure on maybe a week before the pressure really has to go on. But that's the only way we can safeguard our customer-relationships and so on.

Such deceit became less of a feature in the Sales Department when Jim Brown prepared three-month Production Plans but it still existed, especially when new orders or trials were being produced.

In summary. Through experience and familiarity with the members of the setting Jim Brown and Peter Travers developed informant networks, loosely coupled groups of individuals in key positions who could be relied upon to inform them with reliable,accurate information. They in turn supplied individuals in the network with equally reliable information. It was a process of information exchanging or mutual informing.

In addition to the networks Jim Brown and Peter Travers would inform themselves through direct regular observations of key areas, and chance observation of unexpected events. Information gathered from multiple sources permitted them to validate information by cross-referencing.

Jim Brown and Peter Travers would informally use formal or official information; they would further reach agreement with other departments to supply them with information on a regular basis.

In addition to the information being important to their work, Jim Brown and Peter Travers valued information as a means of preserving their credibility or status. They used information as a means of protecting themselves from back-biting oneupmanship. They also used information for their own back-biting oneupmanship.

4.12 Cyril Jenkins and Martin Keyes

I have deliberately avoided producing a diagrammatic representation of these informant networks. Their make-up and use were so dependent on situations and relationships at a particular moment in time that producing a rigid structure would misrepresent them. What was noticeable however, was that certain individuals were excluded from the informant networks. Two noteable individuals were Martin Keyes and Cyril Jenkins.

As cited on page 47 Peter Travers had little faith in Martin Keyes, "To be honest with you, Alistair, it's about time. Martin was never a planner..." Martin Keyes was regarded as being incompetent at his job both as Production Planner and later as Material Controller.

Jim Brown chose to visit the Storeman each Monday to gather information which should have been given to him by Martin Keyes.

Martin Keyes tended to be less well informed because of his exclusion from the networks. He did inform himself in much the same way as Peter Travers and Jim Brown, but he could not rely on being informed. During one conversation, when we was still Planner, I asked him what information he received back from the shop floor.

Martin Keyes — None. I've got to get on my feet and walk down there to see what's going on. I come in....in the morning and see a machine still running and have to go to the setter and ask "what's going on?"

Alistair — Do you get information from Works Study concerning the Machine Record Chart?

Martin Keyes — No. They do supply me with some information concerning numbers produced, but that doesn't explain why these numbers were or were not produced. At the Production Meetings people ask me what's been produced, then they want to know why, and if I haven't been out there to find out what happened they'd tear me down. With the situation we're in now I'm worried that soon I'm going to drop a real clanger, cause a serious upset in the factory.

All too often Martin Keyes was not well-enough informed and was often subject to attack by the other managers. At a Planning Meeting on 14 November 1978, when both Martin Keyes and Jim Brown were present:

Bert Simons — How many blue tubs will be ready tonight, my

customer wants delivery?

Martin Keyes — Four thousand.

Jim Brown — Two thousand, one hundred and sixty.

Peter Travers — (Laughing). Come on, which one is it?

Jim Brown — Nearly half the tubs have pin holes, at least that's what the packers have told me.

(Bert Simons shakes his head in disbelief)

Martin Keyes — I'll go and check. (On returning). Yeh. About two thousand, practically 50% of the tubs have holes.

Such incidents severely affected Martin Keyes credibility. During my talk with him, in October, Peter Travers called into the office

Peter Travers — I've got the Managing Director from saying he will have to shut down his plant because the cartons have not arrived. When can he have them?

Martin Keyes looked out of the window and saw that the machine wasn't running. Somewhat surprised, he phoned Charlie Johnson who was not in his office; he finally had to rush down to the shop floor to gather the information. When he had gone Peter Travers shook his head in dismay.

Martin Keyes had the reputation of being the last one to know. This became clear when I was having a talk with Jim Brown and Martin Keyes came in.

"The Waddy's down again," he said, "it looks like they're taking the main rollers out."

"Yeh, thanks a lot." Jim replied.

When Martin Keyes had gone I asked Jim whether he would take action on that information.

"What, I knew they were taking the Waddington apart after this run," pointing to his planning board, he added, "It's been on the cards for weeks."

"So it wasn't that important."

"No, Martin always brings me history."

As Material Controller, Martin Keyes was able to function adequately from the information he received through the formal channels. He was enthusiastic in telling people what was going on; however, the information was often unreliable and historical.

Cyril Jenkins exclusion from the informant network was more complex than Martin Keyes. In the first instance Cyril Jenkins was distanced from the middle management network because he was a member of senior management. His membership of senior management meant that he had some power of authority over the middle managers. If a middle manager were to report an event to Cyril Jenkins which involved the actions of another middle manager, he would be regarded as an informer. Such informing did take place. Peter Travers might comment on the inefficiency of the Storeman, Sean Davies, to Cyril Jenkins; however

such a comment was not made lightly, it would be deliberate and usually made as a last resort. Mike Shilling's comment on Mike Sampey, the Production Controller, (on page 53) is another instance where he was deliberately drawing Cyril Jenkins attention to Mike Sampey's absence.

A number of events in the factory were a result of inefficiency or malpractice; the middle managers had no jurisdiction over each other and thus information of this nature could be passed fairly freely. Cyril Jenkins was excluded from much of this type of information because he could use it in a penal manner.

A similar division of authority existed between the Departmental Managers, their supervisors and charge hands however information flowed more freely between them. Charlie Johnson and Mike Shilling were from a similar background and upbringing to the supervisors and shop floor operators; they lived in the same housing estates; drank in the same pubs; attended the same football matches and drove the same type of car. On the other hand Cyril Jenkins was university-educated and was of a different background altogether. This made open communication between these levels more difficult. Charlie Johnson and Cyril Jenkins spoke a different language; their loyalties differed. Charlie Johnson made the following classic comment about Cyril Jenkins.

Chrlie Johnson — A bloke goes to University or a College of some sort. Whether he reads anatomy, zoology or bloody mechanics, if he gets a degree in law, he's got the ability to learn, he's got the knowledge up here. Now he should be able to apply his brain to run a factory,do you agree?

Alistair — Well, yes I suppose he should.

Charlie Johnson — Well that's a load of balls! As far as I'm concerned. No offence to you, you may be different. He's got to have experience. Most managers - senior management think if the bloke's got the brain power to take a degree in law he must have the brain power to run a bloody factory. From a production level you've got to have experience.

Another factor that restricted the flow of information was that Cyril Jenkins by being a member of senior management was often unable to transfer information from those sources to the middle management level; in other words, he could not fulfil his obligation to reciprocate information.

Alistair — Do you think enough information is passed down to you?

Mike Shilling — No, I think that's because the Production Manager is loath to pass on information, because they might feel it might be used against them or something.

Jim Brown sums up the problem of the senior management/middle management split:

Jim Brown — I think generally there's a lack of control, most certainly at the lower levels. You seem to have this tremendous void between the top and the factory managers or staff generally. Where

the flow of information's not good the general presence of management isn't good. I don't know, maybe it boils down to personalities. There are some abrasive personalities in here, but I think those people are bloody best working for you, not against you, which is what is tending to happen at the moment. You know all their aggression and enthusiasm instead of being directed into their bloody job is directed against their own bloody manager.

In addition to Cyril Jenkins' position in the organisation he was further excluded from the informant network because he was not highly respected.

Alistair — Do you think there is an old guard and new guard in this place?

Mike Shilling — Oh obviously, that's the problem with my boss, poor bugger, he's the young lad from down the road who doesn't know what he's on about, that is a major problem for us as well.

And later Mike Shilling slipped in the following comment:

Mike Shilling — Changes are happening, I mean we have a new Production Manager which is <u>a disaster</u> itself. We had a general manager who was quite incapable. Without any word of exaggeration. Ha. Ha. Ha. Unfortunately it came to a point where we had to tell him so, but there, that's beside the point.

Jim Brown was a little more sympathetic but still critical of Cyril Jenkins.

Alistair — Do you think he knows what's going on in the factory?

Jim Brown — No I don't think he does in some ways. It's very difficult to be halfway, you've either got to be totally involved or away. Now I think Cyril is in the hopeless position of being halfway. Cyril, he's not completely involved, at the sametime he's not detached. So he's not managing through his Departmental Managers; he's downstairs on a day-to-day basis going through them, which means they're using their knowledge of the plant and factory to take advantage of him. And I think he lets them get away with it perhaps a little bit more than he should do.

Later in the interview Jim Brown describes his contact with Cyril Jenkins.

Jim Brown — I've been here for seven years so I think I know what I can and cannot make decisions on. What I try to do is I make decisions on things that I know'll work. Now if I'm in any doubt about anything I'll decide on what I think should be done, work out the alternatives or the implications. Then I'll go to Cyril Jenkins and say "look Cyril here's the problem, this is what I want to do." And he will either agree or disagree and we will discuss it.

Alistair — So you don't go and ask him what to do, you go and say this is what I want to do?

Jim Brown — Yes.

Alistair — How often does he disagree?

Jim Brown — Well, I've only had him disagree with me once so far. In fact in that case he didn't take a decision on that, the ultimate decision was left to Mike and myself.

Alistair — Does that happen a lot?

Jim Brown — I think with decisions relating to what goes on in the factory itself, yes. Normally they're made between Mike, Charlie and myself. Cyril doesn't normally make decisions in relation to what we do in the factory.

Alistair — Is this a weakness or strength?

Jim Brown — I think it depends how you interpret it. There are those who say it's a weakness. There are those who would say, "well it makes people develop and so on." I think in some ways it is a weakness. I think there are people who take advantage of it. I think there are times when he could give more direction. To be honest, as a person I think he's a very nice sort of bloke. There are the occasions when from the point of view of everybody's performance in their job he doesn't help them as much as he should do, by being a little bit more positive.

Apart from the cagey criticism of Cyril Jenkins these comments highlighted the fact that middle managers would go to Cyril Jenkins only when they were in doubt. By presenting him with the alternative choices they were not asking him to make a decision, they were asking him to ratify one of theirs. They were protecting themselves in uncertain situations. If there was an investigation they could then say, "well I told Cyril Jenkins and he agreed." which would absolve them of responsibility.

Charlie Johnson had a critical view of Cyril Jenkins' knowledge of the factory.

Alistair — Does Cyril Jenkins know these things are going on? (This question was asked in reference to the new incentive scheme).

Charlie Johnson — I'm bloody sure he doesn't. That's a fact.

The lack of confidence in Cyril Jenkins was another reason for his exclusion. Notice that a person could be excluded from the informant networks on two levels. Firstly, information provided by an individual (Martin Keyes) may be disregarded. Secondly, information may not be passed on to another individual (Cyril Jenkins).

4.13 Summary

This chapter, and to a certain degree chapter three, constitutes a store of data on which I will base my analysis. The collection of the data and its presentation was designed to allow the managers to speak for themselves. The data in this chapter describes how the managers went about informing themselves, and why they did so.

This chapter is a descriptive narrative, it is more than a mere data bank for it tells a story in its own right. It tells how managers were active in gathering information from various sources; from their interactions with other managers; from their personal records; from the observations as well as from the official documented sources and meetings. It tells of the reasons why managers gathered information from the various sources; to find out what was going on, what had gone on and what was likely to go on; to confirm that which had

already come to their attention from other sources; to protect themselves and to be able to fulfil their functions. It tells of the different ways different managers went about informing themselves, which may be largely explained in terms of the contact they have with the events they are responsible for, although other,more personal, factors are involved. It tells of the existance of informant networks and social groupings; the role these play in the process of informing; the concepts of credibility and reliability on which they are based. It tells of managers who are excluded from these groupings and informant networks and describes the distinction between informers and informants.

What follows is my interpretation of this story. I shall be drawing on the data to explain and justify my interpretation. I shall not use all the data presented, for much of it speaks for itself and needs no analysis. I, however, would stress the importance of its inclusion, because it serves to build up a more complete picture of the process of informing and the managers involved in this process.

SECTION 2

ANALYSIS

A theme to be developed throughout the remainder of this thesis is that the perspective, conceptual lens or metaphor we choose to view some phenomenon will influence the way in which we interpret it. As will become clear I have chosen my own particular metaphor which in itself is influenced by my ontology and view of human nature. The data as presented in the previous chapters will be interpreted in terms of that metaphor, ontology and view of human behaviour. Possibly another researcher or the reader, by adopting a different perspective or conceptual lens, will interpret the data differently. In presenting the data I have already imposed some structure. This structure I would argue was developed on the basis of my observations and the managers' accounts of how they went about finding out what was going on. The following chapters link my observations or my empirical evidence to my own and other theorists' conceptual frameworks.

Before embarking on the analysis I shall present a brief discussion of two alternative methods of viewing organisations.

Viewing Organisations

It has been suggested that the metaphor we use when viewing an organisation will influence the way in which we view the activities and processes of individuals or groups of individuals, acting within that organization, (Weick 1979). The process of activity that I am

particularly interested in is the process of informing i.e. how managers attempt to find out what is going on. I would argue that the process of informing is concerned largely with the actions of individuals or groups of individuals and occurs within a social or organisational setting. Thus the following analysis has been influenced by the metaphor or the way in which I view organisations. Rather than attempting a detailed presentation of my metaphor at this stage I would prefer to allow it to emerge in the analysis, thus reflecting more accurately the process of its construction. On the other hand a brief statement of my position is required to inform the reader of my stance and to contrast it with the numerous antagonistic and complementary positions found in the literature.

The Orthodox Approach

The study of organisations has been dominated by the "rational model" or "goal paradignm" (Benson 1977). This approach involves explaining organisational patterns or social structures, in terms of hierarchical structure, based on variables such as technology or environmental uncertainty. Organisational behaviour is explained in terms of the goal-seeking or need-fulfilling tendencies of its members. Information and information systems are viewed as motivational strategies and co-ordinating mechanisms used to achieve organisational goals as internalised by the members, and to fulfil their needs within the constraints of structure, technology and environmental uncertainty. Within this approach, authors attribute relative degrees of importance to the organisation as a bounded rational entity, to the pursuit of

goals or fulfilment of needs or to the role played by information systems as the dependant and independant variables.

For example, a correlation between technological features and social structure would be explained as the result of a rational goal-seeking tendency of organisations which produces effective combinations of technology and structure (Perrow 1967). The view that organisations are information-processing entities, and that information systems in part determine organisational design is forwarded by Galbraith (1977).

Methodologically this field has been dominated by a fairly simple form of positivism. Critics argue that organisational features have been measured without much concern about the process through which those features have been produced and reproduced by participants. It is argued that researchers have taken an uncritical stance towards data:

> "Documents produced by organisations have been treated as non-problematic indexes of organisational features, for example organisational charts have become measures of structural differentiation. Likewise self reports and rating scales completed by participants are accepted as indexes of objective fact. These measurement strategies ignore the processes of group life through which such documents and assessments are produced."
>
> Benson 1977

Alternative Approach

The orthodox stance or dominant view as expressed above has been challenged in recent years. The challenge has come from such diverse sources as ethnomethodology, phenomenology and symbolic interactionism. Using these sources, a common underlying theme emerges; it concerns the grounding of organisational phenomena, the structures, goals,

technologies etc. in the activities and practices of the people. The research focuses attention upon the production and reproduction of organisational reality in the ongoing interactions of people. It directs its analysis to the ongoing day-to-day interactions through which a produced reality is sustained.

> "The upshot of these approaches is to render problematic exactly those features which conventional organisational theory has taken for granted. While conventional analysts examine the patterned regularities characterising organisational life at a particular time the action critique directs attention to the underlying processes through which that reality is negotiated, reproduced and altered."
>
> Benson 1977

Organisations are portrayed as consisting of patterns of interaction which entail the fitting together of separate lines of action (Blumer 1969; Mangham 1979). Organisational reality from such a view is located nowhere but in these patterns of interaction. The basic elements or an organisation are individuals and individual relationships in which the individuals not only create the organisation, they are the organisation (Greenfield 1973; Colville 1981).

Weick (1979) elevates the importance of information in such a perspective. Members of organisations spend considerable time discussing among themselves and arriving at an acceptable version of what is going on.

> "The basic raw materials on which organisations operate are informational inputs that are ambiguous, uncertain and equivocal. Whether the information is embedded in tangible raw materials, recalcitrant customers, assigned tasks or union demands, there are many possibilities or sets of outcomes that might occur. Organising serves to narrow the

> range of possibilities, to reduce the number of "might occurs." The activities of organising are directed towards the establishment of a workable level of certainty. An organisation attempts to transform equivocal information into a degree of unequivocality with which it can work and to which it is accustomed. This means that absolute certainty is seldom required. It also means that there can be enormous differences among organisations and industries with respect to the level of clarity they regard as sufficient for action."
>
> Weick 1979

From this perspective, organisational life is seen as part of social life and is capable of being understood in the same way as some sociologists and social psychologists seek to understand social behaviour in general (Mangham 1978; Colville 1981). This approach stresses the continuity between the social and organisational world.

> "I believe that at the hub of all social life is the process of face-to-face interaction; if we can develop some framework to further our understanding of what goes on when two or more people meet and talk, I believe it will not only help us understand what is happening in organisations, but will also provide us with some clue as to how we ourselves may act more effectively."
>
> Mangham 1978

The alternative approach, described briefly above, depicts the way in which I viewed, or came to view, organisations during my research. The choice of this approach will be discussed in the chapter entitled 'Methodological Implications.' Specific detail of my particular interpretations of this approach will emerge in the following chapters.

The question to be answered is "How do managers at the operating level of the factory inform themselves?"

CHAPTER 5
HOW DO MANAGERS INFORM THEMSELVES?

5.1 Media for Gathering Information

The chapter title raises a number of related issues. The first of these is the issue of the mechanics of the process of informing, that is, how information is generated and circulated. In the data I have identified a number of different ways that managers go about finding out what's going on. These ways could be described as the media through which managers receive information. Firstly, managers read reports, they read stock reports, MADCAP, time sheets, bonus payments, pallet load dockets, production record charts, sales orders, dispatch notes, hand over reports and the production plans. These could be classified as the official documented information sources. Secondly, managers kept their own personal records of material usage, numbers produced, dispatches and stock levels. Thirdly, managers talked with each other on the shop floor, in the canteens, at tea or coffee in their offices and at the pub on Friday lunchtime; these interactions were either arranged or routine, chance or accidental. Fourthly, managers attended production and planning meetings where they talked with each other and hence provided and received information. These meetings could be described as arranged interactions; however, they appeared to be of a different nature to those described above and are thus defined separately. Finally managers directly observed events as they were taking place on the shop floor.

The management information systems literature almost exclusively considers only the officially recognised documented information or the formal information system. Whereas very little specific research is directed toward what is traditionally termed informal information systems a number of authors have drawn reference to their existence.[2]

The following are a number of examples:

* * *

"We have evidence that managers spend a great deal of their time collecting grapevine information - gossip, hearsay, speculation."

Mintzberg 1973

* * *

"Verbal channels allow for the immediate feedback and interaction which managers find so important."

Mintzberg 1973

* * *

"The manager's other information may include a vast array of inputs, gossip, ideas, news and so on, provided through less formal (and irregular reporting) channels."

Mintzberg 1975

Aguilar (1967) makes extensive comments on the existence and use of informal information:

"Many tidbits of information that an executive picks up through informal conversations with other businessmen serve...in alerting the business man that something has changed...that there is something more to be learned."

Aguilar 1967

In Neustad 's (1960) study of U.S. Presidents he refers to the Presidents helping themselves to reach out as widely as they can for "every scrap of fact, opinion and gossip."

Simon (1954) has referred to informal information systems:

"Almost every company has some colourful term to describe the unofficial reports kept by operating executives - 'black books', 'bootleg reports', 'butcher books.'"

Simon 1954

Hopwood (1974) termed the unofficial budgets kept by managers as 'bottom drawer budgets.'

Gore (1956) in his highly illuminating study of administrative decision-making in federal field offices devotes a large section to the use of informal information, and states;

> "The field offices generally did not circulate information on policy problems through formal channels; rather they used the more flexible channels of communication of their informal organisations."
>
> Gore 1956

Sutton and Porter (1968) replicated an earlier study conducted by Davis (1953) to plot the flow of nine pieces of information or "grapevine items." Wikesberg (1968) conducted a similar study. Clancy and Collins (1979) attempted to establish the existence of informal accounting records and measure the importance of these informal records vis-à-vis the formal accounting system. They further cited some interesting attitudes towards informal information. For example, the original designeer of the formal system described informal systems as;

> "rump records of little validity and value. We hoped to rid the company of these useless and inaccurate records by designing a new system."

Another director of an information system described informal information systems as;

> "A necessary evil of little real value. The informal records

are necessary to support weak managers in their struggle to justify themselves."

However, managers outside the formal system were highly supportive of informal records and described them as;

"Absolutely necessary for a good manager to do his job. I wonder about the quality of any manager who does not keep some detailed data of his own. Such a man just couldn't lack it. The lack of such records implies that a manager is approaching his job in an extremely naive way."

And similarly the Director of Maintenance felt that;

"my own records are absolutely necessary for the department to operate. The data on maintenance that we collect is not even considered important by the Information Systems Department. All they care about is cost and hours. Mainly we are interested in machine reliability and scheduling of people on repairs. They don't care about our departmental needs."

Clancy and Collins (1979) concluded their quantitative analysis by arguing that 79% of the managers studied maintained informal accounting systems, and that respondents perceived formal and informal accounting systems positively. They finally conclude that "the informal accounting system should be considered as a useful and necessary adjunct to the formal system rather than an unnecessary dissipation of resources."

5.2 The Subject Matter of Information

A second issue posed by the question, How do managers inform themselves? concerns the subjects on which managers received information through

the various media. The range of possible subject matter contained in official documented reports or personal records is limited by their predetermined format and content. The range of possible subject matter that could be discussed at planning and production meetings is greater than in documented reports, but is still restricted by the parameters imposed on the meeting by the participants' definition of it. The subject matter contained in personal interactions between managers is almost infinite. Finally, although observable events which take place within an organisation are often repetitive, the variety of such events in the Avon Factory continually surprised me and the managers.

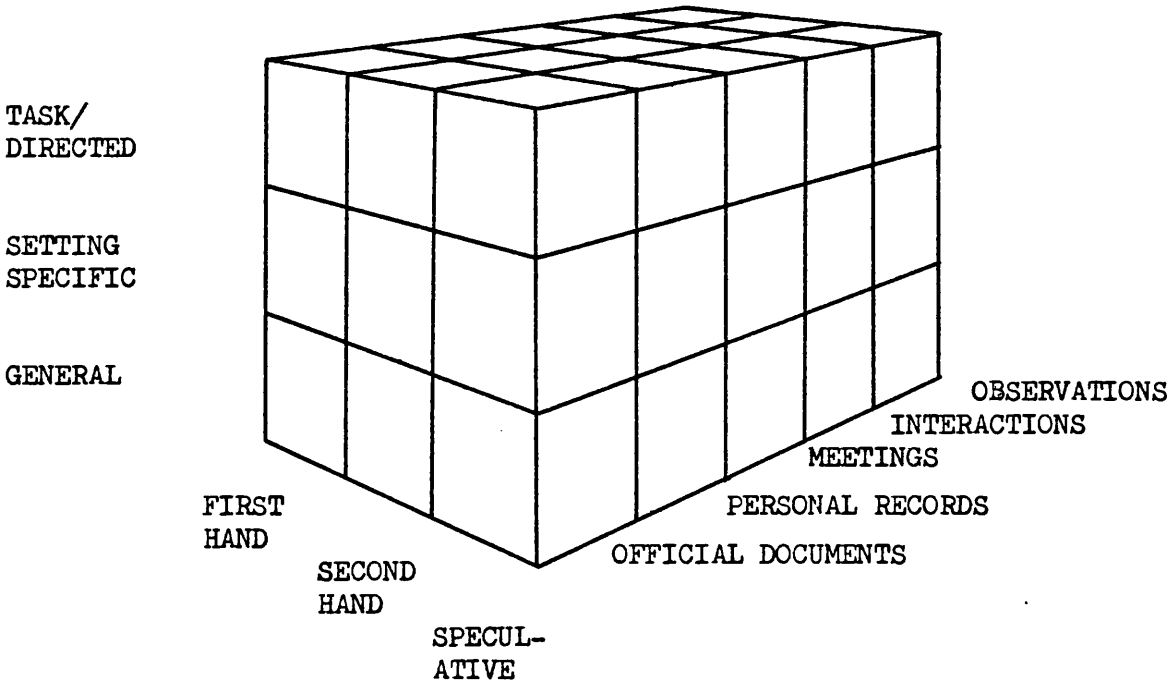
Some order can be imposed on this multiplicity of subject matter. In the data I have identified three broad categories. Firstly, there was information relating to task-directed issues; managers informed themselves about events that would directly impinge on their function and on which they may have to take some action. Secondly, there was information relating to setting-specific issues; managers informed themselves about events that were taking place within the organisation which may have no bearing on their function, but which were nevertheless of interest to them. Finally, there was information about events that took place or were taking place outside the organisation or in the world at large.

Degree of Contact With the Event or Situation

Another issue posed by the question, is the degree of contact the individual manager has with the event or situation the information pertains to. I define information relating to the direct personal experience or observations of the individual concerned, as being

first hand information. Information relating to the experiences and observations of other individuals, and communicated, could be described as second hand information. Information that does not relate to tangible experiences or observations of any of the individuals concerned,could be described as speculative information.

The above three issues and the classification provided, may be combined to form a useful diagrammatic representation of the media, subject matter and degree of distance reflected in the overall complexity of the process of informing:



To verbalise this diagram; managers receive information about task - directed,"setting-specific"or general "world-at-large" issues through observation, interaction, meetings, personal records, and or official documents; such information may be grounded in their own experience, in the experience of others or in speculation.

Many of these boxes are redundant or at best spurious, for example, first hand information must come through observation but could be task-directed, setting-specific or general. However, first hand information could be included in personal records; this would usually be restricted to task-directed issues. Speculative information, as I have defined it, would not be made explicit in any of the media but would have to be read "between the lines" by the managers themselves.

As with all classifications each of the dimensions outlined above have their flaws. Firstly, the media through which managers received information were not mutually exclusive, managers informed themselves about a single event through official documented sources as well as through interaction. Secondly, a subject which might appear to have no bearing on the managers' task, might subsequently turn out to be crucial to their choice of action. Information about the world at large may impinge on the organisation and subsequently on the managers' functions. A case in point was the Lorry Drivers' Strike; this was much discussed as a general subject which in turn had consequences for the organisation by restricting the flow of goods, which in turn affected the production plan and operations. Finally speculative information must have its roots somewhere even if only in rumour.

It should further be noted that information may concern events that

have occured in the past, events that are occuring at present or events that are likely to occur in the future. Thus a manager may find out what has gone on, what is going on or speculate about what may happen. The official documents and personal records tend by their nature to be concerned with reporting historical events as do meetings. However managers may anticipate or speculate about future events on the basis of the historical information provided by the above sources. It is in the area of interactions and observations that information concerning current events is most likely to be generated.

Apart from the flaws in the classification system itself a further criticism of such a framework is that it fails to do justice to the complexity or integrity of the phenomena (Douglas 1976). The framework may describe some external manifest phenomena, that is how information is generated and the scope of its subject matter; it fails, however, to account for the internal subjective processes through which managers select some pieces of information and then convert this "mere" information or "data" into meaningful information on which they can base their course of action. This issue will form the basis of the following chapter.

5.4 Summary

The managers utilised a variety of information sources to inform themselves about past, present or anticipated future events, concerning task directed, setting specific or general issues. The sources of information were; official documents, personal records, meetings, observations and face-to-face interaction. In addition, the manager

might have first hand experience of the events, receive the information second hand or construct the event through speculation.

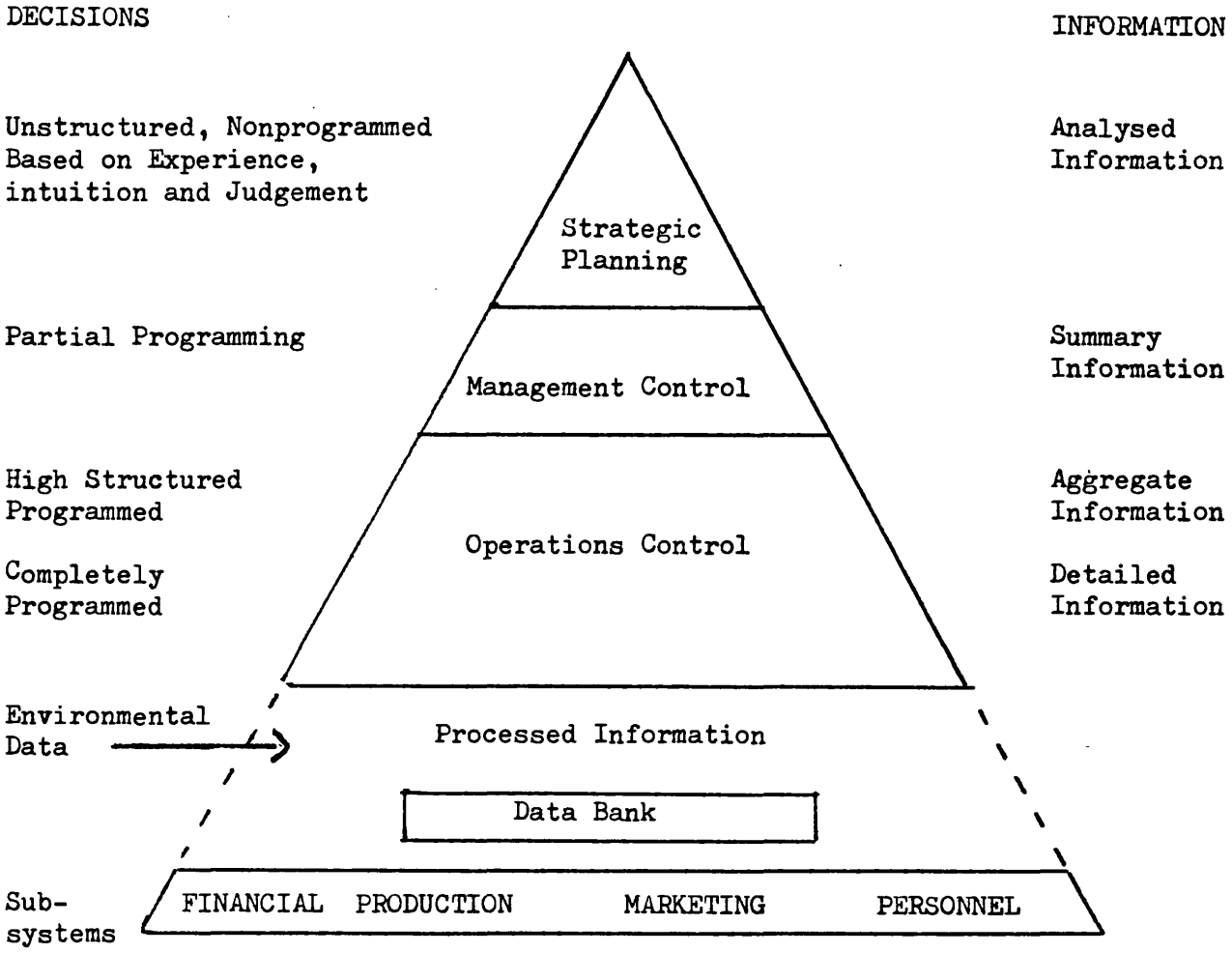
IMPLICATIONS FOR THE TRADITIONAL VIEW OF MANAGEMENT INFORMATION SYSTEMS: THE SINGLE TOTAL INFORMATION SYSTEM MYTH

Within the traditional view of management information systems, information sources other than the formal official documented, are largely ignored; if not ignored, then condemned. McCosh Rahaman and Earl (1981) note that;

> "If a management control information system cannot produce the information which fulfils the needs of managers in content, character and quality, managers create their own information systems. Numerous growths of such 'information systems' may create confusion, produce unreliable data, duplication of effort, make co-ordination difficult and finally may alienate the managers from the corporate control system."
>
> McCosh Rahaman and Earl 1981

Management information systems are typically viewed as the single, total, legitimate information source within the organisation. They comprise of a financial information subsystem, a production subsystem, a marketing subsystem and a personnel subsystem. Data from preselected transactions are gathered and stored in a central computer data bank. The data are then retrieved and selectively processed for distribution to the various levels of management. Typically the organisation is viewed as a hierarchy, separated into three levels of management activity, strategic planning, management control and operations control (Anthony 1965). Each level of management requires a particular type of information. At operations control, where problems are defined as being programmable (Simon 1960), managers require detailed information which is then aggregated and summarised as it filters up through the hierarchy. At strategic planning, where the problems are non-programmable (Simon 1960), managers require less detailed, analysed information. The

entire process may be diagrammatically depicted thus:



Based on this model, information systems designers prescribe the characteristics of information necessary for managers at the various levels to execute their functions

Characteristics of information	Operational Control	Management Control	Strategic Planning
Source	Largely internal	→	External
Scope	Well defined, narrow	→	Very wide
Level of Aggregation	Detailed	→	Aggregate
Time Horizon	Historical	→	Future
Currency	Highly Current	→	Quite old
Required Accuracy	High	→	Low
Frequency of Use	Very frequent	→	Infrequent

Gorry and Scott Morton 1971

By untilizing this model it is argued that the 'formal' management information system is able to supply all the information that managers require. If the system does not supply the required information, the fault is in the design and operation of the system and not with the general principles of the model.

I have already noted (see page 90-99) that managers in the Avon factory found problems with the management information supplied by MADCAP which in this model would be described as the "production information sub-system." These problems conformed with what Mintzberg (1975) describes as inherent impediments to the use of management information. Information was too late, too general, too unreliable and lacked detail. Other authors to recognise these impediments are: Davidson and Trueblood (1970); Johnson and Derman (1970); Pfiffner (1960); Hoos (1971); Wilensky (1967); Nuestad (1960) and Alexander (1960).

If these impediments are indeed inherent and I would argue that they are, it is necessary to consider the validity and legitimacy of other information sources, that managers actually use, in their attempts to inform themselves in a timely, detailed and accurate manner. These other sources in the literature are traditionally termed the "informal information system," as contrasted with the "formal". The distinction between "formal" and "informal" has a number of implications.

Firstly, the term 'informal' is used as a definition for so many heterogeneous types of information or modes of informing that it is fast becoming meaningless. The types of information or processes of informing defined as 'intelligence systems,' 'informant networks,'

the 'grape vine,' 'gossip,' 'hearsay,' 'tidbits of information' and 'rumour' have significantly different characteristics to those defined as 'bootleg reports,' 'bottom drawer budgets' and 'butcher books.' The problem lies with using, or over-using, the simple formal/informal dichotomy. This dichotomy has the same short comings of most simple classification systems; namely, that while some types of information will lie close to the formal or informal classifications, others will fall between the two, exhibiting characteristics of both. Given this limitation of the simple dichotomy it might be more appropriate to regard them as opposite ends of a continuum rather than as dichotomous types.

The officially recognised statistical production information such as MADCAP would constitute one end of the continuum, the information exchanged during verbal interaction between the managers in the informant networks,and more so,in the social groupings would constitute the opposite end. The production meeting possibly defined as the 'official verbal' and the personal records possibly defined as the 'unoffical documented' would be somewhere in the middle of the continuum exhibiting characteristics of both the official or formal and the unofficial or informal. The continuum would be thus:

FORMAL — SEMI-FORMAL — INFORMAL

OFFICIAL DOCUMENTED (MADCAP)

OFFICIAL VERBAL (PRODUCTION/ PLANNING MEETING)

UNOFFICIAL DOCUMENTED (PERSONAL RECORDS)

UNOFFICIAL VERBAL (TALKING - THE GRAPEVINE)

Whilst I feel that viewing the formal/informal as a continuum, rather than as a dichotomy is more appropriate, I would suggest that the distinction between the formal and the informal in organisations is an artificial construct used by academics and managers to simplify or order their view of organisations. When Jim Brown received a piece of information the formality or informality of that information was of little consequence. What was of consequence was the reliability and credibility of its source, its accuracy and timeliness, and its meaningfulness to Jim in selecting a course of action. Silverman (1971) suggests that many features of organisational reality, and I would include the formal/informal distinction, which are taken-for-granted by conventional approaches, are reifications. These he argues are not real entities, but have a false objectivity attributed to them. Furthermore, building such constructs into theory only contributes to their reification.

A second point to emerge from the formal/informal dichotomy and related to the above point, is concerned with the colourful phrases used to define the various types of 'informal' information or modes of informing; 'intelligence systems,' 'the grape vine,' 'gossip,' 'hearsay,' 'tidbits,' 'rumour,' 'bottom drawer budgets,' 'bootleg reports' and 'butcher books;' these all add up to create a picture of secretive clandestine activity. They imply that these processes of gathering information are illicit or illegitimate, that there is something underhand about people talking to one another and keeping personal records. Attempts to stamp out such modes of informing have been noted by Clancy and Collins (1979):

> "they are rump records of little validity and value. We hope to rid the company of these useless and inaccurate records by designing a new system."

and

> "they are a necessary evil of little real value. The informal records are necessary to support weak managers in their struggle to justify themselves."
>
> Clancy and Collins 1979

Conceivably any piece of information be it officially documented or 'informal' may be used to fulfil some strategic or political aim, which in turn might well be defined as clandestine or underhand. Alternatively, any piece of information may be used for perfectly legitimate purposes, such as solving a problem or monitoring performance. It might be argued that 'informal' information lends itself more readily to misuse, however, it would be wrong to label all 'informal' information as clandestine or illegitimate. The phrases used to describe 'informal' information are in many cases highly descriptive: however, the connotation that they are in some way clandestine or underhand should be lifted. All modes of informing used by managers may be regarded in the first place as being legitimate; the manner in which the piece of information is subsequently used may be questioned, and judged to be illegitimate.

A final point I would like to make in relation to 'informal' information concerns the emphasis placed on the reason for its existence. Mintzberg (1975) sums up the dominant emphasis.

> "Managers find difficulties with the MIS - too limited and often too general, too late and too unreliable. Instead, managers turn to ad hoc, informal information systems that they design and prove for themselves.
>
> Mintzberg 1975

Herein, is implied that 'informal' information is used because of limitations in the 'formal' system. The US Presidents became their own directors of their own central intelligence because the 'formal' information was too bland or not sufficiently rich, (Neustad 1960).

Such personal records as kept by Peter Travers and Jim Brown were indeed kept because of the limitations in the 'formal'systems.

On the other hand I would argue that the verbal communications or interactions between the various managers were conducted inspite of the 'formal' information. As I have argued, social interaction, and thus verbal communication, is a fundamental building block of our social and organisational life. Given certain conditions, for example the absence of hostility, people will talk to each other on a wide variety of subjects. Contained in these interactions are large amounts of information concerning events in the factory or organisation which the participants use to make sense of their surroundings and thus decide on their actions.

Given this perspective it is fallacious, detrimental and impossible to eradicate 'informal' interaction or communication by simply improving the reliability, accuracy, timeliness and content of the 'formal' information. This is not to suggest that 'formal' information should not be improved, but simply to reinforce the point that social interaction or verbal communication is an integral part of organisational life and has a legitimate role to play in the process of informing, as have personal observations, personal records and meetings.

Clancy and Collins (1979) make a similar point concerning informal

accounting records:

> "the informal accounting system should be considered as a useful and necessary adjunct to the formal system rather than an unnecessary dissipation of resources."
>
> Clancy and Collins 1979

The official management information system within this view may only be regarded as constituting a part (and at the level of the organisation in this thesis) a minor part in the process of informing.

NOTES

1. A more detailed discussion of the formal/informal dichotomy will be presented at the end of the chapter.

2. The literature on the formal information system has almost exclusively been concerned with the issue of design and implementation of such systems. The focus of this thesis is not towards the design and implementation of information systems. The "design" of MADCAP, the computerised production information system, may only be regarded as a process of tidying up the existing information rather than as the design of a new system per se.

CHAPTER 6

INFORMATION AND INTERACTION

The question posed at the end of the last chapter was, How do managers select, from the vast array of information or data they receive or gather, those pieces which they regard as being of some importance and which requires their consideration? I defined this as the process by which managers convert "mere" information or data into meaningful information on which they can decide upon a course of action.

6.1 The Literature

A number of theories to explain the process of informing have been put forward by various authors or schools of thought. The Human Information Processing School draws heavily on psychology in an attempt to measure psychological variables which impinge on the process of informing. The major thrust is to examine the mediating variables between the receipt of information and the resultant decision (Driver and Mock 1975: Libby and Lewis 1977: McGee, Shields and Birnberg 1978). The human information processing school, by dwelling on individuals psychological variables ignores the organisational impact on behaviour. Furthermore the concept of personality is based on the belief that consistencies in behaviour are both temporally and situationally stable. Thus,it is argued that individuals will respond or process information in a consistent manner allowing the prediction of the outcome of a decision based on the information received. Whilst this approach has some appeal, it would appear that by concentrating on within-person factors which are taken to be stable through time and situations, the approach ignores the role of social order in

determining individual behaviour and the concept of change over time and situations that take place within the social order. Birnberg, Frieze and Shields (1977) and Shields, Birnberg and Frieze (1981) borrowed another theory from the social sciences, namely attribution theory, to describe or provide a model for understanding the way in which managers process or interpret information. The general idea of attribution theory is that people interpret behaviour (or events) in terms of its causes and that these interpretations play an important role in determining reactions to the behaviour (or event) (Kelly and Michela 1980). Thus attribution refers to the perception or inference of cause. The theory is conducted primarily in social psychology, the focus has been the perceived causes of another person's behaviour. A parallel analysis has been made of the perceived causes of one's own behaviour, and the liveliest recent topic has concerned differences between 'other-perception' and 'self-perception.' (Jones and Nisbett 1972). The theory argues that attributions have antecedents one of which is termed information; it is on the basis of this information along with beliefs and motivations that perceived causes are attributed and behaviour decided upon.

The reference to information and causality makes attribution theory an appealing concept to management information theorists. Whilst Birnberg, Frieze and Shields consider the process by which managers inform themselves their major thrust is directed toward the process of control. Concentrating upon the attribution theorists' work on the differences between 'other-perception' and self-perception,' the approach is concerned with the superiors' and subordinates' use of accounting data to make inferences concerning causality. The argument suggests that causality is usually not known in an objective fashion.

The result is that the supervisor and subordinate may hold different views of causality for the subordinate's reported performance and thus there are significant opportunities for conflict in a multi-person control system (Shields, Birnberg and Frieze 1981).

Weick (1977) addresses the issue of processing information in terms of making sense of events or situations. Weick argues that through enactment the individual brackets raw data from the ongoing stream of experiences. He uses a grammatical metaphor and describes the process of punctuation and connection. Punctuation means chopping up the stream of experience into sensible, nameable and named units and the activity of connection involves imposing relationships (typically causal relationships) among the punctuated elements. This process of punctuation and connection Weick calls 'parsing.'

Weick argues that the process of enactment which punctuates or brackets raw data and the process of connection or selection which assembles that bracketed data into information should be analysed separately, lest the distinction between raw data and information becomes obscured. Using a quote from Thayer (1967) Weick explains the distinction;

> "It is not the "things" of the world - material or non-material with which we deal. We deal with "information" about these things...the things themselves are sensory data that are sensed and transduced by the individual sensorium to provide him with raw sensory data. The function of the psychological system at this point is to select out and

> convert raw data into information - i.e. into "mental" material for thought or "decision." It is this event or occurrence - that of consciously or unconsciously ascribing meaning or significance to raw sensory data and thus of converting it into information - that I prefer to call "communication." Thus communication occurs when some raw data input has been meaningfully related to some portion of the total psychological system for immediate or later use in thought or action. It follows from this, and other notions of intra-personal functioning, that the meaning of any experience is constituted by the very process of its accommodation into the dynamic psychological system."
>
> Thayer 1967

Thus Weick argues that enactment involves generating raw data which is eventually transformed by other processes into information and action. Again I have sympathy with these ideas, however I would argue that raw data or mere information is generated by other means in addition to enactment. Data may be received second-hand through a variety of sources, for example, from official documents or meetings.

In the management information systems literature the distinction between data and information at its simplest level, is that, information is processed data or conversely data is raw information. The information system then, in part, is a mechanism for processing data into information. This definition implies that data once processed and communicated becomes information which is imbued with some inherent meaning for the user, it fails to consider the interpretative process stressed by Thayer (1967) and Weick (1977). Other authors, for example Mason and Mitroff (1973) and Lucas (1978) have recognised the role of the individual in the process of informing

or in the information system, Wilensky (1978) refers to the point that information is "dumb data" until converted into information (in Wildavisky's paper) by the policy analyst.

It is possible to consider the gathering, processing and the distribution or receipt of information as being a process of interpretation on a number of levels. The first level of interpretation arises when an individual recognises and interprets an event or transaction as being important. Within the formal system such an event or transaction if it was sufficiently regular would be recorded. The second level of interpretation arises when deciding on the "best" means of recording, processing and reporting the event or transaction. A third level of interpretation arises when an individual receives the report, decides on its importance and possibly selects a course of action. Thus, through the process of interpretation "sensory perception" is recorded and thus converted into "data" which in turn is processed and converted into "mere information," which in turn is converted by the individual into "meaningful information."

In informal information the recoring may be that of memory and the reporting may be verbal. However, the interpretative process at each stage still occurs; unless the data is not processed but simply communicated; in such a case the individual would directly interpret the data itself.

The above concept of interpretation contains the nub of my analysis, particularly with reference to the conversion of data or mere information into meaningful information, through the individual consciously or unconsciously assigning meaning to that data or "mere" information.[1] The question that remains is: How are these meanings derived?

Thayer (1967) argues that:

> "The data to information conversion policies are largely a product of socialisation."
>
> Thayer 1967

However, he further argues that the individual's psychological system is seen to be both self-generative and self-organised as well as being mediated by the process of socialisation.

A perspective with similar characteristics to the points outlined above is that of symbolic interactionism which Boland (1979) argues might be useful in understanding the process of informing and control. It is this perspective I have adopted to analyse my data. The basic postulates of the symbolic interactionist tradition are provided by Blumer (1969). These are, that people act towards things on the basis of the meaning that things have for them, that meaning arises out of social interaction and that meanings are developed and modified through an interpretative process. These postulates provide a basis for understanding the process of informing; they specifically incorporate the individual, the individual in social interaction, an explanation of the derivation of meaning and an explanation of how meaning may be subsequently modified or changed.

To return to the question, How do managers inform themselves?. I have defined organisations as consisting of patterns of interaction which entail the fitting together of separate lines of action. The basic elements or building blocks through which organisational reality is produced, reproduced and sustained are the ongoing interactions of

people. In the section which follows I demoted interactions to simply one of the many ways which managers receive information. It is an observable phenomenon that managers do receive "mere" information or data in interactions; what is missing in this definition is that managers also assign meaning to that "mere" information or data through the process of interaction. It is through this process that managers inform themselves.

6.2 People Act Towards Things on The Basis of Their Meaning

The first premise of symbolic interactionism entails the recognition that human beings do not typically respond directly to stimuli but assign meaning to the stimuli and act on the basis of the meaning (Manis and Meltzer 1978). This premise elevates human behaviour above that of non-human organisms. Humans can, through the medium of symbols and their meanings, interpret stimuli and act on the basis of that interpretation. It was with this distinctively human behaviour in mind that I argue that managers inform themselves. Managers attach meaning to the stimuli they receive in the form of "mere" information or data from the various sources outlined above. In effect the stimuli only becomes information when the managers interpret them and attach meaning to them. Until the interpretative process is brought into play, until meaning is attached to the stimuli, information remains "mere" information or data. Thus managers inform themselves by attaching meaning to the stimuli or data they receive through the media of official documents, personal records, meetings, interactions and observations. In addition to attaching meaning to the information received on specific events, the managers attached meaning to the media themselves.

6.3 Information Sources and Their Meanings

Charlie Johnson was highly critical of official documents and described them as being largely meaningless.

> "I get a lot of papers that mean bugger all anyway. I think there's a lot of emphasis on things that are irrelevant."
>
> (Page 86)

* * *

> "I don't know what to do about it; they're just showing me some bloody figures aren't they. What can I do about figures? They just mean 60, 70 or 80 or whatever the bloody figure is. It doesn't tell me what to do to get better figures."
>
> (Page 86)

Jim Brown assigned greater meaning to official documents, for him they provided a summary of events that he had observed or heard about during the week. Official documents, particularly MADCAP provided an overview and a means of confirming information he received from other sources (see page 97). Jim Brown did however,express concern over the accuracy and lack of detail in MADCAP which he felt resulted in it being a less meaningful document (see page 92).

Mike Shilling attached similar meaning to MADCAP but in addition it had meaning for him as a way to "sus out what's happening." He could show it to his supervisors and through discussion determine the causes of unfavourable performance or inconsistencies.

> "Then at the end of the week here's the management information and there are occasions where the figures don't tie up. Then

we have to try and analyse why there was a difference.

(Page 104)

For Mike Shilling management information was used as a means to trigger investigations. The discussing of MADCAP with his supervisors was an example of how information from one source was used in subsequent interactions.

Peter Travers regarded official documents as a meaningful way to monitor past performance, plan future events and to take immediate action, (page 74). Again Peter Travers had reservations about the accuracy, timing and detail of information in the official documents.

The managers assigned meaning to the Planning and Production Meetings. Charlie Johnson described the Production Meeting as a "waste of time (see page 115). Jim Brown described it as "little else than a way to provide a rough indication of what's going on in the production department" (page 116). Simon White regarded it as "useful just for a quick exchange of views" (page 117). Cyril Jenkins, however, attached more meaning to the Production Meeting; it helped keep him abreast of events in the factory (page 117).

The meaning attached to the Planning Meeting changed over time. At first Peter Travers regarded it as important as a means of communicating to production the requirements of the customers. However with the introduction of Jim Brown as Production Planner, the Planning Meeting lost its meaning; in Peter Travers' words:

"there's no need for it any longer, we just have to look at

Jim's Board."

(Page 50)

Many of the personal records kept by the managers, the stock levels, production numbers and hand-over reports were regarded as an important means of overcoming the problems of accuracy and timeliness in the official documents as well as a means of informing in their own right, and were used extensively by the managers, (see pages 138, 137, 155).

Observations and interactions as a means of gathering information were universally regarded as being meaningful. Mike Shilling regarded word-of-mouth contact as:

"one of the biggest effective ways of keeping the things ticking."

(Pages 131-132)

Charlie Johnson spent most of his time observing events and asking his supervisors questions such as "what's happening today?", "what's happening now?", "Are they all running?", "Are they making the rate?", "Any one out?" (Page 133).

Jim Brown described his function in terms of gathering information:

"The way I see my function really, is to amass all the relevant information that's needed to translate our customer requirements into a production plan."

(Page 145)

Jim Brown gathered information from a number of sources, but stressed

the importance of observation and communication with the other managers, the supervisors and the shop floor workers (see pages 146-147).

Peter Travers stressed the importance of interaction as a means of informing himself.

> "I think it's very good for people to be communicating in that way (by word-of-mouth)."
>
> (Page 109)

and stressed that he would not like to see it change an "awful lot."

An important point to be gleaned from the above comments is that managers often assigned different degrees of meaning or different definitions to the various sources of information.[2] Charlie Johnson expressed this very appropriately:

> "I don't bother to bloody read them. I'm terrible; I've always been terrible; some people are paper-minded or figure-minded."
>
> (Page 86)

Given that people act towards things on the basis of the meaning that things have for them, and that individuals can assign different meanings to the same object, it follows that the managers will develop idiosyncratic approaches to the process of informing themselves. This view has been expressed by Mangham (1979).

> "Each social actor, as a consequence of innumerable successive involvements with other people and other events will have

> developed an idiosyncratic approach, a way of interpreting and behaving, of ascribing meaning to the event which is peculiar to himself and may not coincide with that of other actors."
>
> Mangham 1979

Charlie Johnson who was "terrible" with figures assigned a different meaning to MADCAP and acted towards it differently than did the more "paper-minded" or "figure-minded" people such as Mike Shilling.

6.4 Events and Their Meaning

In addition to assigning meaning to the various sources of information, managers assigned meaning to the events reported in these sources. The way in which events or situations were interpreted, and the meaning assigned, again varied from manager to manager. Based on previous experience with what were taken to be similar circumstances, the managers' particular goals at the time and anticipating the consequences of the event, the managers constructed a scenario or picture of the situation. They were in effect constructing a definition of the situation (Thomas 1937); this process is described most aptly by Thomas himself:

> "Preliminary to any self-determined act of behaviour there is always a stage of examination and deliberation which we call the definition of the situation."
>
> Thomas 1937

How a manager defines an event or situation will largely determine his response to it. Therefore a manager's response to a piece of information will be determined in part by his definition of the event it purports to describe.

> "Thus the individual's response in any particular situation is a result of how he defines that circumstance rather than by how the circumstance may "objectively" appear to others."
>
> Mangham 1979

In response to Mike Shilling's comments on the level of waste for Birds Eye Melba lids (pages 125 and 128), Peter Travers called in on Stores, to check the stock level and then proceeded to the Print Room to see the extent of the waste. For Peter Travers, based on his experience of similar events involving high levels of waste, on his goal to meet the following day's delivery and his anticipation of the consequences of another late delivery, he defined this piece of information as being of sufficient importance to warrant further examination to ensure that there were sufficient lids available.

A similar case is the incident on page 165 where an unnamed informant reported to Peter Travers that Norton Dairies collation trays were "running very quickly" and were running at six thou. material instead of eight. Peter Travers was persistent in his attempts to increase stroke rates on competitive products; this permitted a reduction in the estimated price. The information that the collation trays were "running very quickly" had some meaning to Peter Travers. He defined it as a situation through which he could argue for an increase in the rate and a reduction in the price. The information concerning the material's gauge also had meaning to Peter Travers based on the anticipated consequences of producing such trays 'far under specification." [3]

> "OK, that is serious, because if he was right we would be producing trays far under specification...Well you can't

> afford to ignore it because it could have serious consequences."
>
> (Page 166)

The fact that Peter Travers' response in both cases was to gather more information before he directly acted on the event itself will be discussed subsequently.

Robin Slater cited an example (page 136) where he would respond to the process of interpretation directly to an observation he made.

> "Now if I see this morning that there's a lot of granulating to be done, or the yard's in a mess I'll get somebody to stay on."
>
> (Page 136)

The observation that there was a lot of granulating to be done or that the yard was in a mess meant something to Robin Slater. Excessive granulating or an untidy yard meant that operating in those conditions became difficult, material was spoiled or wasted which in turn would elicit the wrath of Chris Davis. Based on his definition of the situation Robin Slater would respond by "getting somebody to stay on."

Thus managers defined the situation by interpreting or assigning meaning to the reported information which in turn would influence their response to the event or situation.

Thus as Hall (1972) suggests;

> "Without meaning, people lack the ability to know how to act towards a 'thing', in fact it is the transformation of the 'thing' into an object that makes for action." 4
>
> Hall 1972

6.5 Meaning is Derived Through Social Interaction

How is meaning derived? Tracing a piece of behaviour and the definition of meaning on which it is based, back to its origin is an almost impossible task. It is however argued, in symbolic interactionism, that meanings through which people come to define situations and then choose courses of action are ultimately derived through interaction with others.

> "Whether one is confronted by the absence of meaning in an ambiguous situation or is being indoctrinated into a business organisation the establishment of meaning occurs through the exchange of social interaction."
>
> Hall 1972

A newcomer, on his first day at the factory, would be confronted by a variety of events, situation or stimuli which had little or no meaning to him. Through interaction with others he would learn the meaning of events, situations or stimuli, he would also learn the appropriate way to handle such events. Through successive interaction (which may include comments and criticisms of his action) and increasing familiarity with the events themselves, the newcomer would modify or sustain the initial meaning he assigned to the events. He would continue to encounter new events, situations and stimuli and would seek the meaning of these by successive interactions with others. The newcomer's actions, that is what he does, will depend

on interaction with others through which he derives, modifies or sustains the meaning of events, situations or stimuli.

In the incident involving Robin Slater, where he observed the high level of regrind and untidiness of the yard there was apparently no interaction with others. Robin Slater simply responded on the basis of his observation. The problem here lies in viewing episodes in isolation, as always being one-off unique events.[5] Meaning is derived, modified or sustained through successive interactions with others and involvement with what are taken to be similar situations. Robin Slater had experienced high levels of regrind and untidiness before. He would, at one time, or on many occasions have experienced difficulties in operating under these circumstances, or have been instructed by Chris Davis or Charlie Johnson to "get the bloody mess tidied up." The meaning was not inherent in the stimuli themselves, as a stimulus-response model might have us believe, but rather, was a product of interaction with others and involvement in similar situations.

To use a concept from the dramaturgical perspective; Robin Slater through previous interactions and or experience, had developed a scripted response to deal with the situation (Mangham 1979). Robin Slater had learned an appropriate script of how to respond to the cues incorporated in his observation. This is not to argue that such situations were clearly scripted, in the sense that specific responses were learned and rigid patterns of behaviour were followed. As Mangham states;

> "Scripts in the sense that I am using the term imply nothing more or less than relatively predetermined and stereotyped sequences of action which are called into play by particular and well-recognised cues and circumstances."
>
> Mangham 1979

If meaning is derived through social interaction it is necessary to consider what factor or characteristics are taken into account in the interpretative process during interaction. The symbolic interactionist would suggest that the definition would include the assigning of meaning to the object or event, to others and to oneself.[6] These issues will be considered in the next three chapters.

6.6 Summary

Managers develop idiosyncratic approaches towards the various sources of information based on the meaning they assign to them or the way in which they interpret them. Through examination and deliberation managers arrive at a definition of the situation or event to which the information relates. Thus, managers inform themselves by assigning meaning to events brought to their attention through some source of information.

The meaning is derived through interaction either in a contemporary interaction for new or novel situations or through successive previous interactions for situations that are taken to be similar to previous experiences. Derived meaning is learned from others and is modified or sustained through successive involvement with others.

NOTES

1. Within the context of designing information systems, the processes of interpretation in terms of selecting events or transactions to be recorded and the means by which they are processed would require consideration. I would suggest that it is possible for a discrepancy to exist between the system designer's interpretation of what is important and how it should be processed, and that of the user. Deardon (1972) suggests that systems designers from the computer professions are possibly the wrong type of person to design information systems for managers.

2. Schutz (1964) makes a similar point where he states:

> "The fact that the same object has a different appearance to various observers has been illustrated by some philosophers."

3. It appeared that the anticipated consequences of an event were more important in arriving at the definition of the situation than discovering its cause in cases where immediate action was required. Identifying the cause could be considered in a post mortem after a solution to be problem was implemented. This brings into question the attribution theorists'claim that the attributed cause of an event will influence behaviour; it appears that the anticipated consequences of an event play an equally important role.

4. The transformation of a thing into an object may be equated with Thayer's (1961) concept of information about things (page 205).

5. The notions of common recurrent events and unique or novel events will be developed throughout the thesis.

6. Boland (1979) considers that research into information systems should consider the following:

   a) Self-indications (what individuals notice, pay attention to, and treat as meaningful.)

   b) Objects (the persons, events, categories and measurements made available by an information system).

   c) Interpretations (the myths, stories, symbols and ideas shared by systems users).

   d) Interactions (the patterns of formal and informal exchange of verbal and non-verbal communications taking place within the organisation).

The following chapters include the above categories although a different rhetoric is employed.

CHAPTER 7

OTHERS AND INFORMATION

In this chapter I discuss the role of others in the process of informing.

Mead suggests that all human behaviour is social behaviour; all human acts are social acts; the content and the very existence of distinctly human behaviour are accountable only on a social basis. It is recognised that individuals act and interact within larger networks of other individuals and groups. Some of the networks are far removed from given individuals in time and space, and yet have an appreciable impact on them (Manis and Meltzer 1978). Few actors can afford to ignore the impact on, and response of, others. Thus in defining a situation and deciding on a course of action the anticipated response from others plays an important role. Individuals assign meaning to others, to others' actions and to the responses of others to their own actions. The assigning of meaning to another may take place during an interaction or the 'other' may be distanced by time and space. The awareness and definition of others, others' actions and responses to their own action from others are of considerable importance in the process of informing and thus to our understanding of the process.

7.1 Others' Involvement in Events

Each event or situation which comes to the attention of a manager in the form of information involves the actions of others, and in many cases is the direct result of the actions of others. The incident on page 124 where Jim Brown lost four hours of extrusion time was described in terms of the actions of others:

"Because some silly bugger put a load of breeze blocks against the octabins. "

(Page 124)

In Robin Slater's example some person or persons had allowed the regrind to build up and had left the yard untidy. In the two examples concerning Peter Travers some person or persons were involved in creating the waste or running the machine above stroke or using the wrong gauge of material.

Within the concept of events arising out of the actions of others, I include the possibility of events arising out of a person not taking action when it was expected of him. A case in point is the episode concerning the black specks where the maintenance engineer neglected to replace the feed pipe when requested to do so by Charlie Johnson thus creating the problem (see page 165).

On page 157 Jim Brown cites the case where on checking the silos on Monday morning he found them to be down to one per cent. He again defined the situation in terms of the actions of others.

"Then you go downstairs and find that <u>they</u> hadn't run regrind at all over the weekend."

(Page 157)

On pages 160 and 161, the issue of bad sheet was attributed to the actions of the Quality Control Department. They had failed to identify bad sheet which resulted in making defective Melba lids.

The actions of a customer or somebody outside the organisation might

create an unfavourable situation. Bert Simons, the Sales Account Executive, described the lack of work on RDM 4 and 5 in terms of the customer's actions:

> "The whole situation is hairy, they've slowed down; it's the metrication problem; there's talk that they may change the design altogether."
>
> (Page 49)

Favourable situations were also defined in terms of the actions of others. Jim Brown's preparation of a workable production plan was recognised and praised by Peter Travers.

> "Well it's looking bloody good, it looks like it's our problem to fill the machines instead of the other way round."
>
> (Page 49)

Prior to Jim Brown being promoted to Planner, Martin Keyes was held responsible for the problems associated with planning. Finally, in my study of stock control the actions of the labourers, the supervisors and the storemen were defined as the causes of the unacceptable situation concerning stock reports.

Certain events did not appear to be caused by the action of others, a mechanical breakdown, or the lack of space may have been defined as the cause of the event. On page 52, Mike Shilling described the situation concerning mini seed trays in terms of the shortage of space:

> "We've never had enough space to store goods for the roller

cutters. This site is just not equipped for the job."

On page 118 the problem on Rotoform 2 was described in terms of the faulty heater, the oil leaks and the water leak.

Even if the initial situation did not originate in the action of others, the solution or non-solution of the situation would invariably involve the actions of others. In the case of the mini seed trays it was recommended that somebody would find an alternative space to pack the goods. In the case of the Rotoformer the engineers were involved in replacing the heater and remedying the leaks.

Managers were thus acutely aware of the actions of others both in creating a situation and then subsequently solving it. Managers were equally aware of the inaction of others in creating a situation and of those who subsequently did not solve it. The action of others played an integral part in the managers' definition of a situation.[1] This tendency was so prevalent that even what appeared to be a situation caused by a purely mechanical fault was attributed or traced to the action of others. The high level of breakdowns were attributed to the lack of planned maintenance by, and inefficiency of, the engineers; to the age of the machines which should have been replaced by senior management; and to the lack of training and inexperience of the machine operators. As Charlie Johnson so succinctly put it:

> "So a lot of their time is snagging, you can call it snagging - or getting people out of the shit, because <u>they're</u> not conversant with what <u>they're</u> bloody well doing."
>
> (Page 76)

7.2 Defining Others

I would suggest that the actions of others are not viewed in isolation. Through successive involvement with others, through observation of others' actions and through hearsay about others, people form definitions of each other. Individuals attribute characteristics to one another and in doing so make judgements about other individuals and often attach descriptive labels to them. The general definition or label one attaches to another may differ from the individuals' own definition of themselves, although others' definitions influence one's perception of self.[2] The importance of these labels or general definitions is that, once formed, they will influence the interpretation of the others' subsequent actions. Jones and Nisbett (1972) note that:

> "the actor's perceptions of the causes of his behaviour are at variance with those held by outside observers. The actor's view of his behaviour emphasises the role of environmental conditions at that moment of action. The observer's view emphasises the causal role of stable dispositional properties of the actor. We wish to argue that there is a pervasive tendency for actors to attribute their actions to situational requirements whereas observers tend to attribute the same actions to stable dispositional characteristics."
>
> Jones and Nisbett 1972

In the incident noted on page 141 where Charlie Johnson intended to keep a history card of problems encountered on each tool, in order to defend himself against "a bloody inquest," Charlie proposed to account for his performance in terms of the physical problems involved, "six water leaks, the bloody dye was buggered up or hairy cut." Steve Baker, the Engineering Manager, who was Charlie's superior, would define Charlie's behaviour or performance in terms of his general definition of Charlie or his more stable dispositional characteristics.

Charlie was noted by Steve Baker for his stubborn and cantankerous nature. Thus, a discrepancy would exist between Charlie's definition of the situation and his performance and that of Steve Baker's.

I have borrowed the concept of labels from labelling theory which is traditionally associated with the study of deviance. Rose Gialembardo (1966) depicts the social roles in a prison for women in terms of the labels attributed to various persons. Women were labelled as "snitchers" "inmate cops" or "lieutenants," "squares" and "jive bitches," or "rap buddies" and "homeys". These labels were attached to individuals and when these labels were shared, they influenced the behaviour of others towards that individual. At Avon such labels were in evidence. Jim Brown was defined by Peter Travers as a competent production planner.

> "I got to keep saying it, really the planning side. We have an absolutely 100% right relationship with the planning side. We're fully kept in the picture about what's going on."
>
> (Page 101)

On the other hand Martin Keyes was defined in less favourable terms:

> "To be honest with you, Alistair, Martin was never a Planner."

Although he was defined as a "bloody good" machine operator (page 48).

David Wright regarded Cyril Jenkin's as an ineffectual Production Manager; this was made fully evident in the first meeting to set up the Working Party (page 33). The nickname given to Mike ('I'm too busy') Sampey was due to successive situations where Mike Sampey would not, or

could not,deal with a problem situation at once. David Clark was defined as "Diddy David" because of his apparent inability to deal with trivial situations. Kevin Linsey was defined as a 'flapper" because of his tendency to overstate the importance of fairly trivial events. Chris Davis was the "trouble shooter" brought in to sort out the factory's problems. Based on involvement with and observation of Cyril Jenkin's actions, Mike Shilling defined his appointment as a disaster (page 174). Jim Brown although thinking Cyril Jenkins was a "very nice sort of bloke" did claim that he could be a "little bit more positive" (page 176). Charlie Johnson observed that although Cyril Jenkins had a university degree, that did not mean he was a good Production Manager (page 173). Charlie Johnson was defined by Jim Brown as a difficult person to communicate with (page 148). The shift supervisors in Charlie Johnson's department were defined as being "more experienced" and "far more aware" than those in Mike Shilling's department. Mike Shilling himself was defined as an "exaggerator" and was difficult to deal with (page 152).

In view of the possibility that there may exist a difference between the definition one holds of one's own actions and the definition another holds, it is possible that individuals will construct different definitions for what is apparently the same situation.[3]

7.3 Others as Informants

In addition to the action of others playing an important part in the definition of a situation and thus in the process of informing, the role of others in the provision of information played an equally important part. In the factory, information from whatever source,

was provided by another person or persons. The other person or persons who provided the information influenced the manager's assignment of meaning to that piece of information and thus to the event or situation it pertained to. This in turn influenced the course of action the manager decided upon. The definition a manager had for the person or persons who provided the information, largely determined the manager's response to it.

Jim Brown viewed information from the engineers with a certain amount of scepticism, as he stated;

> "I always check on anything to do with engineers because as far as I'm concerned the engineers are not the most consistent within the factory."
>
> (Page 154)

The fact that Jim Brown defined the engineers as unreliable sources of information influenced the course of action he would adopt on receiving information from them; namely he would always check on them.

> "I have a lot of problems with engineers (so) I check with the engineering supervisors (Tim Steed or Steve Baker)."
>
> (Page 154)

Information on breakdowns was crucial to Jim Brown; he could not afford to simply disregard information from the engineers. However, because of problems with engineers in the past he would not accept the information at face value but would "go round the back doors and double check." Thus the perceived reliability of the informant

played a crucial role in the process of informing.

Jim Brown described the feed-back or information received from Mike Shilling as being very poor and thus he would not wholly rely on it. (see page 152). Jim Brown did not rely on information received from Martin Keyes concerning Material Control but rather would go out to the Store each Monday to gather information from the Storeman, who he regarded as a more reliable source (see page 158).

On pages 146 - 147 Jim Brown summed up the importance of the source of the information:

> "There's a lot of fallacies been built up over a long period of time about what we can and cannot do...So what I try to do really is to get the information from the people who should know...instead of the people who say "Ah, we tried that ten years ago and it didn't work so we're never going to use that again."
>
> (Pages 146 - 147)

Peter Travers reinforced the importance of the source of the information or the person it was received from.

> "It depends on the source actually. Informal information, rumour or whatever, from certain people you can almost guarantee as being right. With other people you can guarantee as being grossly inflated or exaggerated or whatever."
>
> (Page 163)

The reliability or credibility of the source influenced Peter Travers' response to the information.

> "If the information's from a certain source you do something about it; if you hear it from others, that's OK you may probe a little bit and try and find out if it's true, but you probably don't take much notice of it, quite honestly."

As I mentioned at the beginning of this section, information from any source was provided by some person or persons. Hence, the credibility or reliability of the source of information was also applicable to official documented information. Unless the recording process was governed by some mechanical or electrical device a person or persons must be involved. The information on the machine record charts, on which MADCAP was based,was provided by the machine operators. The actions of the machine operators, in providing information, were explicitly taken into account by the managers when interpreting that information. Managers were aware of machine operators manipulating the machine record charts and their time sheets, as Jim Brown pointed out;

> "I'm not really happy that some of it is, if you like, valid. As I've said before, I've seen a lot of doctoring of sheets for bonus on the shop floor and I'm sure that must be reflected in the information that's recorded in MADCAP."
>
> (Page 93)

It was apparent, from my data, that managers did not simply sit and wait for information to come to them, but were active in seeking information about unknown events and seeking confirmation or greater detail about events that came to their attention. In seeking information the managers would approach individuals whom they defined as reliable sources of information. Jim Brown would have a chat with

Charlie Johnson who he regarded as a reliable source of information when he was on the shop floor to find out what was going on.

Previously I described the situation where Peter Travers on hearing about the high levels of waste and the high stroke rate and gauge of material, responded by seeking out additional information. In doing so he went to his "well-tried reliable route, to try and check what is happening" (page 166). Jim Brown described how he had to "run round and get information from other sources" about Mike Shilling's department because of the unreliable nature of the information received directly from Mike (page 152). Thus both Jim and Peter were selective in their choice of informants.

A further justification for managers carefully selecting sources of information was because they had experience of being misinformed; Peter Travers commented on this:

> "There are a lot of cases still, where you think you ended up with the true picture. Then you talk to somebody else about it or you put forward your own theory or something just to find you've got the whole bloody thing wrong anyway, because the information hasn't been strictly speaking correct."
>
> (Page 164)

Misinforming may not necessarily be malicious; an informant may simply misinterpret an event and quite innocently pass on that misinterpretation. It is appropriate to view information from others as accounts of events; they are reconstructions of an event or situation based on the interpretation of that event, by the informant. The manager may receive the account second or, possibly, third-hand,

and must then interpret not only the event, but also the account, based on his definition of the informant and his interpretation of the informant's actions. The manager in effect must analyse the account in much the same way that Harré and Secord (1972) advocate that researchers do. The manager is unlikely to express the analysis in terms of its intelligibility and warrantability. Nevertheless,he will consider the feasibility or likelihood of the event in the light of his knowledge of the workings of the factory, as well as considering the intentions of the informant.

From my observations it was apparent that the managers made a clear distinction between reliable and unreliable sources of information. This distinction was based on the manager's definition of the other and the other's actions, which in turn were derived, modified or sustained through successive involvement with the other and through interaction with other third parties.

The defined reliability of informants played an important role in the formation of the informant networks (page 149). Another dimension of reliability was also involved, managers would rely on others to inform them of events taking place. Jim Brown would rely on Charlie Johnson and the supervisors to keep him informed;

> "The feedback from the factory is now far, far better. Generally speaking if a machine is shut down for more than about an hour I'll be told."
>
> (Page 149)

Thus, key informants which made up a manager's informant network, were individuals who the manager could <u>rely</u> on to provide him with <u>reliable</u> information.[4]

Managers did not automatically reject information received from individuals who they defined to be unreliable; they simply treated such information more cautiously or with scepticism. They were careful to receive information from all sources, no matter how unreliable, with gratitude. In Goffman's (1959) terms the managers suspended their disbelief when receiving information from those who were defined to be unreliable sources. Thus Jim Brown thanked Martin Keyes for his information concerning the Waddington (page 175) before describing it to me as history. This suspension of disbelief preserved the social fabric or relationships within the factory; for, after all, Martin Keyes might on certain occasions provide an important piece of information.

7.4 Implications and Consequences for Others

The importance of others in the process of informing was apparent in another dimension; a piece of information coming to the attention of one manager might be defined as having implications for another manager. This is implicit in the previous section, for an informant will inform another because he defines the event as having meaning for the other. Charlie Johnson would inform Jim Brown of a breakdown lasting more than one hour because he defined the event as having some meaning for Jim. Jim Brown would in turn inform Peter Travers if he defined the event as having some meaning for Peter. Managers were aware of the consequences or impact of an event on other managers and their functions. They attributed meaning to an event in terms of the role or function of other managers. Jim Brown defined his role in relation to Sales in terms of his reponsibility to communicate to the commercial department "what is going on in production" (page 153).

Information gathering and interpreting may be viewed as purposeful behaviour. Manager gathered information to find out what was going on and to find out whether some action was required by them.[5] The managers were aware of the consequences to, or impact on,others of the action they chose to take on a piece of information. Jim Brown was aware that a mechanical breakdown could mean that he would have to change his production plan which in turn would have implications for the Departmental Production Manager concerned and for the Sales Department. Jim would explicitly take into account the impact of his actions on others and would imagine or anticipate the responses of others to his intended course of action. The anticipated response of others was therefore important to a manager in defining the situation and selecting a course of action. Managers had to consider the appropriateness or acceptability of their course of action based on the information they received, in the light of anticipating the responses of others. This is not to imply that the course of action chosen was wholly determined by others, for a manager may consciously decide on a course of action which was regarded as being inappropriate or unacceptable by others.

Jim Brown reinforced the importance of informing others of his intended course of action:

> "They tend to feel that decisions are taken without anybody bothering to consult them about what can and what cannot be done, and I think that's a very dangerous thing - so whenever possible I try to communicate with the supervisors and even the extruder operators and people like that....OK sometimes you may have to make a decision where people are told to do something they don't want to, or feel that they

can't do. Although I do try to communicate with them and tell them why I still have to make the decision."

(Page 148)

The previous section implies that a process of socialisation takes place, where managers learn to assign meaning to physical events or situations, to the actions of others and to others themselves through the process of interaction. Furthermore by imagining or anticipating the response of others, managers learn appropriate and acceptable course of action whereby they participate effectively in the social setting. Taken to its limits the socialised individual becomes little more than an automaton responding to the socially-derived meaning learned through interaction with others, whereby he acts within the predetermined parameters of acceptable social behaviour. This view is all too simplistic, in that it fails to consider the apparent ability of individuals to choose a course of action, which may be described as new or innovative or, alternatively, as inappropriate or unacceptable by the other members of the setting. To accommodate such behaviour in the analysis it is necessary to incorporate the concept of self which is the topic of the following chapter.

7.5 Summary

The role of others in the process of informing are threefold:

Firstly, situations or events involve the actions of others and may be the direct result of the actions of others. Managers are aware of the involvement of others in situations. The meaning which they assign to the action of others and the definition they hold for the others

themselves influence the managers' subsequent definition of the situation.

Secondly, information, in whatever form, is supplied by some other person or persons. The definition a manager holds for the informant, usually expressed in terms of reliability and credibility, will influence the way in which the manager assigns meaning to the information which in turn will influence his subsequent action.

Thirdly, managers assigned meaning to events in terms of the implications those events were likely to have for other managers. Furthermore managers imagined or anticipated the response of others to their proposed course of action.

NOTES

1. Shields, Birnberg and Frieze (1981) note from the works of Garland et al (1975), Freize (1976) and Carrol and Payne (1977) that individuals, when asked what information they would like to have, typically sought information about the person performing the task as well as about the task being performed.

2. Cooley (1922) illustrates the social origins of self by referring to it as the "looking glass self." He suggests that the attitudes and reactions of others are important to the individual's self concept in a reflective manner, see chapter 8.

3. The possibility of multiple and conflicting definitions of a single situation will be discussed in chapter 9.

4. Informant Networks will be more fully discussed in chapter 10.

5. Throughout the management information literature, information or information systems are linked directly or indirectly with decision making or selecting a course of action. This issue will be discussed in chapter 9.

CHAPTER 8

SELF AND INFORMATION

In this chapter I introduce the concepts of self and role and outline their importance to the process of informing.

8.1 A Definition of Self and Role

An individual has the ability to act towards himself as an object unto himself; he may praise, blame or encourage himself; he may become disgusted with himself, he may wish to punish himself and so on. Individuals are able to interact with themselves, that is, they are able to engage in thought or engage in minded behaviour, and in doing so are capable of forming new meanings and new lines of action. This does not mean that human beings transcend all influences, however, it does draw attention to their activity in modifying these influences and in creating and changing their own behaviour (Manis and Meltzer 1978).

When an individual thinks or engages in minded behaviour he carries on an internal conversation; he is able to observe, monitor, plan and justify his own behaviour. The individual is able to assign meaning to, define, interpret and thus direct his own behaviour. This proposition points to the fact that the socialised human being both enmeshes himself in society and frees himself from society. The individual with a self is not passive, but can employ himself in an interaction which may result in behaviour divergent from group definitions (Manis and Meltzer 1978).

The process by which an individual assigns meanings to his actions

or forms a definition of himself, is similar to the process by which he assigns meanings or forms a definition of other social objects, that is, he does so through a process of interaction.

> "The self like all other social objects emerges from the process of interaction as the individual responds to and internalises others' definitions of him."
>
> Mangham 1978

Cooley (1922) introduces the concept of the "looking glass self" where he argues that the definition of others are important to the individual's definition of himself. Through monitoring and internalising the comments and criticisms of others of his own behaviour, the individual forms a definition of self. The self is not an entity or fixed object, but a fluid and dynamic process. Through continual observation and monitoring of his behaviour and successive involvement with others the definition of self like other social objects is sustained or modified.

Mead (1934) defines the self as a social process involving two analytically distinguishable phases. The I and the ME. For Mead the I is the impulsive tendencey of the individual. It is the initial spontaneous, unorganised aspect of human experience. Thus it represents the undirected tendency of the individual. The ME represents the incorporated other within the individual. Thus, it compromises the organised set of attitudes and definitions, understandings and expectations - or simply meanings - common to the group. In any given situation the ME compromises the generalised other and often, some particular other. Thus using the concept of self as I and ME we have the basis on the one hand for social control and on the other for novelty and innovation. Every act begins in the form of an I and usually ends

up in the form of a ME, for the I represents the initiation of an act prior to its coming under control of the definition or expectation of others (the ME). The I gives propulsion while the ME gives direction to the act. Human behaviour then, can be viewed as a perpetual series of initiations of actions by the I and the acting-back upon the act (that is the guidance of the act) by the ME. The act is the resultant of this interplay (Meltzer 1964).

The distinction between I and ME, both of which constitute the process of self, provides the basis for understanding the mutuality of the relationship between the individual and society. The individual can be seen as existing in a dual system, or what Mead referred to as 'sociality.' By adopting the ME perspective the individual may conform, but should the I prevail, innovative behaviour will result. Thus society does not determine behaviour, nor does behaviour determine society; society and individuals are both determined and determiners, (Mangham 1979).

The above analysis of the process of self in terms of the I and the ME provides a basis for understanding on the one hand routine or common acts, and on the other hand novel or innovative acts. However, as an explanation of self it is still lacking. The question that remains to be answered is, how do we as individuals define ourselves, or very simply, What am I and What is ME?

The discussion centres around the concept of self in terms of one's individual internal persona which includes one's thoughts, feelings and emotions and the concept of self in terms of ones role or function within a particular setting. Zurcher (1977) argues that the individual

has a self as process, which he equates to Mead's I, thus it incorporates the spontaneous emotional responses of the internal individual. In addition, the individual has a self as object which includes the concept of Mead's generalised other. The self as object originates through the process of socialisation where the individual learns values (guiding principles),norms (rules), status (positions or places in the social order), and roles, (behavioural expectations in association with these status), Zurcher(1977).

In considering the definition of self it is therefore necessary to consider an individual's definition of self as a process or as McCall and Simmons (1966) call it the 'personal identity' and the individual's self as object or the 'social identity.' The former is made up of the individuals inner thoughts, feelings, fantasies and self esteem, the latter being defined as the role within some setting. The individual therefore might have multiple social selves or roles applicable to the various settings he is a member of. McCall and Simmons (1966) argue that such a sharp distinction between personal identity and social identity is simplistic,for an individual's personal identity, will impinge on his social identity and vice versa. They describe the interrelationship as the role identity or role performance and state;

> "Social position alone is not sufficient to specify role - behaviour, for the demands of such a position are filtered through one's character or self-conception and are modified to blend with it."
>
> McCall and Simmons 1966

I would suggest that the definition of one's self plays an important role in the process of informing. Furthermore, the distinction

between one's personal identity and social identity (or one's self and role) and the interrelationships between the two, are useful to understand the role and self in the process of informing.

8.2 Interpreting Information In Terms of Oneself and One's Role

The argument that managers inform themselves, implies the awareness of self. Situations or events coming to the attention of a manager in the form of information at Avon were first and foremost defined in terms of the impact that the situation might have on themselves and on their roles. Subsequently interpreting the event in terms of the impact on others might modify or sustain the initial definition and influence the course of action chosen. On the other hand it might not. The manager may interpret information purely in terms of his personal identity or self and select a course of action which complies with his own self interest. However, the manager also has a social identity or role within the organisation; this role incorporates the generalised other, which includes the values, norms and status of the organisation. By interpreting information in terms of his social role, the manager may choose a socially acceptable course of action.[1] McCall and Simmons would suggest that the selection of a course of action would be influenced by both the personal and social identity of the manager.

> "Such a role identity is his imaginative view of himself as he likes to think of himself being and acting as an occupant of that position."
>
> McCall and Simmons 1966

At Avon each manager was able to define himself in terms of the requirement of his job or function and indeed they had specific titles which described their role in the organisation. Jim Brown

was the Production Planner, he defined his function as;

> "to translate our customer requirements into a production plan."
>
> (Page 145)

Charlie Johnson was a Departmental Production Manager; he defined his function as;

> "to run it (the machine) as fast as we can, as efficiently as we can and as cheap as we can."
>
> (Page 86)

Peter Travers was the Assistant Marketing Manager; he defined his function as "getting orders from customers to fill the machines" and then satisfying the customer requirements in terms of price, quality and service.

In having constructed a definition of their roles, managers were able to assess the impact of a situation or event, on their function or job. In the case of Peter Travers and the information he received concerning waste from Mike Shilling, and the high stroke rate and the gauge of material from the unnamed informant, he was able to assess the impact that these events were likely to have on his function. The meaning of these incidents could be expressed in terms of the impact on his job by having dissatisfied customers and uncompetitive prices.

The incident on page 129 where Charlie Johnson learned of the proposed trials on the obsolete plaster form machine is another example where

the event was defined in terms of the impact the situation was likely to have on the individual's function. The trials required a skilled operator drafted from his regular activities, leaving a gap in production, which meant that Charlie could not run the machines as fast, as efficiently or as cheaply as he would like.

Jim Brown actively sought information from the Material Storeman (page 158) because of the direct impact, on him as planner, when bad sheet was fed straight back into stores without his knowing about it.

The definition managers had of their own role or functions was not necessarily in agreement with that held by other managers. Jim Brown argued that a considerable portion of his time was spent performing the function of Production Controller.

> "I probably spend 50% of my time running round amassing information from the sales office, investigating shortages in production and problems in production."
>
> (Page 143)

Other managers defined Jim Brown's role as that of controller and thus used Jim in that role. On Page 143 Robin Slater asked Jim about material problems on the Waddington, and on Page 147 Mike Shilling enquired about material deliveries - both these events were the responsibility of the Material Controller and not the Production Planner.

Mike Sampey held the title of Production Controller whereas the other managers defined his role as Material Buyer and rarely if ever contacted him about Production Control issues.

In Martin Keyes'reign as Production Planner the other managers relied on Peter Travers to plan production and directly contacted him on planning issues.

Thus managers were not only aware of their own definition of their function but internalised the definition that other managers held for them. Although Jim Brown and Peter Travers criticised other managers for miscasting them, they both responded to the role assigned to them. Much of the ill feeling on Jim Brown's part was used as a means to criticise Mike Sampey, and at the same time imply that he should hold the title of Production Planner and Controller. Regardless of the political implications, managers defined situations in terms of the impact they had on their own defined role and that role assigned to them by others.

8.3 The Importance to Oneself of Being Informed

Managers were particularly concerned about being well informed or in the know.[2] Jim Brown made the following comment:

> "And obviously if you haven't got the bloody information it makes you look like a bloody idiot, which means that your credibility suffers and people think you don't know what you're doing."
>
> (Page 151)

Martin Keyes reinforced the importance to oneself of being in the know:

> "At the production meetings people ask me what's been produced. Then they want to know why, and if I haven't been out there to find out what happened, they'd tear me down."
>
> (Page 169)

Managers spent a considerable amount of energy gathering information of a general nature to ensure that they were well informed. Jim Brown explained that he looked at the machine record charts and the communication book from a "general point of view" or just to see "what's happening" (Pages 155, 156). Charlie Johnson on his arrival in the morning would walk around the yard and factory to see the general state of things (Page 133). Mike Shilling would gather information about his own and other departments seemingly out of interest or curiosity. The gathering of general information had a deeper significance than simple curiosity. In gathering information the managers were arming themselves; they were aware of the implications to themselves of being caught out by being ill-informed. Managers were never sure when they might be put on the spot or have to explain some event. In view of this type of uncertainty, managers attempted to ensure that they were familiar with a wide variety of events in the factory. The managers were aware that others might try to 'score points off them' by showing up their ignorance. As Jim Brown described the situation;

> "It's bloody downright aggression. It really is a case of 'dog-eat-dog.' I mean I try not to get involved but it certainly is a case of personalities. It's certainly a case of one-up-man-ship. People will very often go out of their way to nail your backside to the wall for fun. You know, just for personal satisfaction."
>
> (Page 160)

Charlie Johnson would arm himself with very detailed and specific information on the event in question:

> "What we are going to do is to have a history card with the

> tool. So on any run with that tool, the date goes in and all the faults on that run will be put on that history card. So that in two months time when there's a bloody inquest on it, when they say why did you only run so fast that time when you ran so fast last time, I'll say "hang on a minute, here's the bloody history card; that's what happened last time, we had six water leaks, the bloody die was buggered up or hairy cut or all sorts' and we can throw it back at 'em."
>
> (Page 141)

By gathering such information Charlie Johnson was protecting himself or his department from an investigation by others.

Managers therefore gathered information to protect and enhance their personal identities. Crucial to both the managers social identity and personal identity, and implicit in the above section, is the importance of the response of others to one's action or proposed action.

8.4 The Importance to Oneself of Being Correctly Informed

I have suggested that managers would explicitly take into account the impact that their actions would have on others. In effect the managers were concerned with the consequences of their actions. The managers would evaluate the consequences of their actions, based on a piece of information, by imagining or anticipating the response of others to their actions or proposed actions. Managers were thus concerned that their chosen course of action was based on an appropriate definition of the situation or event. The managers sought to confirm or modify their initial definition of a situation by gathering additional information from the various sources, to avoid acting upon an incorrect definition of a situation.

Jim Brown took great pains to check information or to check that the situation was real before he took it to the Sales Office (Page 153). On page 151 he confirmed the importance to himself of being correctly informed:

> "To a certain degree a lot of my credibility depends on it. If I have not got the right commercial information about how far we can go, all I do is undermine my own credibility, and so it's got to be right."
>
> (Page 151)

Martin Keyes was continually concerned about his lack of correct information:

> "With the situation we're in now I'm worried that soon I'm going to drop a real clanger, cause a serious upset in the factory."
>
> (Page 169)

Thomas' (1937) classic quote "If people define situations as real they are real in their consequences," has an important bearing on understanding the responses or behaviour of the managers. For Robin Slater, in directly observing the level of regrind or state of the yard (Page 136) there would be little doubt in his mind about the reality of the situation. In consequence Robin Slater would take action on the basis of his definition. If Robin Slater chose not to take action on this very real situation, the consequences would be equally real, working conditions would become more difficult and Chris Davis would be on the 'war path.' Robin Slater was aware of these consequences.

In the two examples concerning Peter Travers, (the level of waste, the high stroke rate and the gauge of material) he did not have direct first-hand experience of these events and was in some doubt as to how real the situations were. He was aware of the consequences of the events given that they were real. He however, chose to elicit additional information to confirm or modify his initial definition of the situation. Before taking direct action on the event Peter Travers wished to assure himself that the situation was real. In Peter Travers' own words:

> "The other part of his story was incorrect but had to be checked because it had consequences. Then you go and follow your well-tried reliable routes, to try and check what is happening."
>
> (Page 166)

The definition that the manager holds of a situation is constantly subject to confirmation or modification even after the manager defines it to be real. As Peter Travers comments:

> "There are a lot of cases still, where you think you ended up with the true picture. Then you talk to somebody else about it, or you put forward your own theory or something, just to find you've got the whole bloody thing wrong anyway."
>
> (Page 164)

Defining a situation to be real which subsequently turns out not to be real has a double set of consequences, both equally real. In the case of the black specks in the extruded sheet (Pages 164 and 165), at first one manager, (unknown) had defined the situation in terms of dirt in the machine; in consequence, the extruder was shut down for one week, resulting in the very real loss of 7,500 tonnes of

production. This definition of the problem turned out to be incorrect; the consequences were still real, the 7,500 tonnes were not produced. The unknown manager had then to contend with a second set of consequences; his incorrect definition prompted other managers to question his judgement which in turn affected his credibility. In a somewhat oblique reference to all those concerned Peter Travers made the following comment:

> "And you ask yourself why the bloody hell didn't somebody check the silo to see if that was where the problem was?"
>
> (Page 165)

A further more detailed enquiry was instigated when the cause was identified as a small feed-pipe which should have been replaced.

Information thus was of particular importance to reduce ambiguity, uncertainty and equivocality (Weick 1979) about events so that managers could avoid taking inappropriate action on incorrect definitions of the situation.

Even after deliberation and further investigation it was possible that a manager could still be uncertain about the nature of the event. In such cases the manager may have to adopt a"try it and see"approach. When this occured the managers gathered or received information about the progress of the course of action. The managers required to be "kept in the picture" to monitor and later justify the consequences of their action.[3]

8.5 Oneself as an Informant

One particularly important definition of self, in terms of the process

of informing, was the definition of oneself as an informant. Both Jim Brown and Peter Travers relied on others as informants, however they were also aware that they in turn must be informants themselves. The informant networks were based on reciprocal informing or mutual information-exchanging. Jim Brown could rely on Charlie Johnson and the supervisors to "keep him in the picture," however he stressed the importance of his role as an informant to them, describing the process of informing as a "two-way thing," (Page 150). Jim Brown was further aware of his role as informant to the commercial or sales department.

> "Clive has said that I'm solely responsible for communicating to the commercial department what is going on in production."
>
> (Page 153)

Peter Travers was more office-bound but nevertheless regarded his role of informant as being important. He had to rely on people from the factory to come to him.

> "It's back to the word-of-mouth again, we'd like to think that people from the factory can come over, which happens a lot."
>
> (Page 162)

As seen previously,Jim Brown was concerned with the reliability of the information supplied by others and of the informant himself. He was also concerned about the other's perception of his reliability as an informant, for if Jim was defined by others as un unreliable informant, it would jeopardise his position in the informant network and thereby starve him of important information. Jim actively checked on doubtful information he received, before passing it on to other managers.

> "I feel I must ensure that the information I've got is correct before I take it over to them and sometimes I have to go through ways that I shouldn't really have to, to ensure that it is correct."
>
> (Page 153)

Managers were not only concerned by being defined by others as reliable or credible informants, they were equally concerned not to be defined as informers. Managers not only defined each other and themselves as being reliable suppliers of information, they also defined each other and themselves as being reliable receivers of information. On receiving information, which often included a description of another's actions, the manager would have to be careful to whom he passed it on, lest he be described as a "grass," "stool pigeon" or informer. David Clark and Kevin Linsey were recognised as having a close affiliation with senior managers and were suspected of passing on information to senior management; they were defined as informers and largely excluded from the informant networks (see Page 121).

Between the middle managers, information circulated relatively freely; however, between the middle managers and senior managers the informer-informant distinction was acute. On pages 134 - 135 both Charlie Johnson and Mike Shilling stressed that they did not often volunteer information to Cyril Jenkins; rather, they only responded to his enquiries. Cyril Jenkins, because of his status as a senior manager and because of his lack of credibility, was excluded from much of the information circulating within the middle manger informant networks, (pages 172 - 176). Chris Davis in turn was cautious about supplying information to the middle managers which he received from other senior managers (Page 173).

8.6 Information and Conflict

As Mangham (1979) states, not all human behaviour can be viewed as co-operative. Individuals can strategically manipulate the actions of others for their own interest. Managers were not above deliberately misinforming others to achieve their own objectives or goals. In the factory I observed that much of the managers behaviour in dealing with each other was co-operative, in that, the managers recognised that they must deal with each other to accomplish certain tasks.[4] However, in some cases the managers' behaviour did appear to be unco-operative, antagonistic or in conflict. Conflict between individuals appeared to stem from two sources, these were personal or strategic. In the organisation behaviour or organisation theory literature, the fact that certain individuals actually dislike each other or cannot "get along with each other" is ignored. However, I would suggest that in any social setting conflicts will develop between individuals based on their personal feelings towards each other. The cause of such animosity is difficult for the researcher to ascertain; however, the consequences of such animosity are very real.

The animosity between Jim Brown and Mike Shilling (page 152), which was essentially personal, manifested itself in a number of ways. Firstly, information flow between these two individuals was poor. Secondly, minor planning issues tended to be exaggerated and made an issue of. And finally, there was a considerable amount of backbiting and one-up-manship. Each of these consequences had an impact on the working relationship between Jim and Mike and hence on the two departments.

Another example of personal dislikes creating conflict was between Martin Keyes and Charlie Johnson, the cause of such deep feelings was never

made known to me, however the result of such conflict manifested itself in Charlie Johnson continually ridiculing Martin Keyes, openly behind his back and in a more disguised fashion during meetings when Martin was present. Again the result of this conflict was a non-existent flow of information between Martin and Charlie.

The middle managers were considerably less strategic than the senior managers, (for example Chris Davis) in that they appeared to have less career ambition. Simon White, Ron Welsh, Charlie Johnson, Mike Shilling and Mike Sampey appeared to be quite content with the position they held in the organisation. However, Jim Brown, Peter Travers and Nigel Plant were more ambitious and strategic. Jim Brown was intending to become a Production Manager either at Avon or another R.T.G. Unit. To this end he was conscious of his performance and was not above impeding other managers through the withholding of information or through deliberately misinforming for his own personal gain. He continually criticised Mike Sampey as Production Controller and intimated that he was performing that function and should carry that title. His attempts at a plan for the Print Room (Mike Shilling's department) were less committed than for the other departments, the cause of which he attributed to inadequacies in that department. On Charlie Johnson's retirement Jim Brown was promoted to Departmental Production Manager, and was given charge of the Print Room, much to Mike's displeasure.

Thus there was a balance between co-operation and antagonism in the factory and information was used both for problem solving or decision making and for offensive or defensive purposes, (page 246).[5]

Not all this misinforming or withholding of information was combative

that is, for offensive or defensive purposes but could be used for semi-legitimate purposes or for the "good of the company." Peter Travers cites an example on page 167 where he deliberately misinformed production to give them some breathing space.

> "So if you like we assess what we think is going to happen and we add a certain amount of time to give ourselves a bit of breathing space. So we're putting pressure on maybe a week before the pressure really has to go on. But that's the only way we can safeguard our customer relationships and so on."
>
> (Page 167)

8.7 Summary

The managers' definition of self both in terms of personal identity and social identity played an important role in the process of informing. The managers would interpret the situation or event in terms of the impact it would have on them and their role within the organisation.

Managers were aware of the consequences to themselves of being ill informed and therefore gathered data to protect and enhance their status. Managers were further aware of the consequences to themselves of taking action on a misinterpretation or an incorrect definition of the event. In order to guard against this, managers thoroughly checked information on serious or important events, and information brought to their attention by unreliable informants.

Managers defined themselves as informants and were conscious of their perceived reliability as suppliers and receivers of information by others. To maintain one's position in an informant network and

thereby have access to information from others, the manager had to reciprocate and in turn inform others with reliable information.

Not all behaviour in the process of informing was co-operative, managers may deliberately misinform another or withhold information for defensive or offensive purposes or to manipulate the other's response and thereby achieve their own goals or objectives.

IMPLICATIONS FOR THE TRADITIONAL VIEW OF MANAGEMENT INFORMATION SYSTEMS: MEANINGFUL INFORMATION

The traditional view of management information, is that data, processed according to the prescriptions of the information system design, are somehow imbued with meaning. It appears that a fairly simple stimulus-response model of behaviour has been adopted. Information is regarded as a stimulus which, in a given situation, or for a given problem will elicit a particular and predictable response.

However, from my observations, information, even when processed remained "data" or "mere" information until the manager assigned meaning to the data or "mere" information through an interpretative process. Data or "mere" information may still be regarded as a stimulus or trigger for action; however, rather than automatically producing a predictable response, a process of interpretation intervenes. Thus, if the information system is intended to provide managers with the information which is meaningful to them, it is necessary, as I have attempted to do, to consider the nature of the interpretative process.

Within the literature on management information systems a number of writers have explored less restricting definitions of information than "information is processed data." The most cited example is that of Mason and Mitroff's (1973) (page 205). Lucas Jr. (1978) specifically discusses the "interpretation of data" and McCosh Rahaman and Earl (1981) state that:

> "Human behaviour is seldom a direct response to objective reality, but is rather a response to the individual's perception of that reality."
>
> McCosh Rahaman and Earl 1981

These ideas are not entirely consistent with my own, for I do not believe that individuals can successfully be categorised into "psychological types" (Mason and Mitroff 1973) which are consistent over time and space. I further do not agree that an "objective reality" exists; I would suggest that it is not an individual's perception of that reality but rather his construction of it. However, apart from these criticisms such concepts have failed to create a significant impact on the fundamental assumptions underlying the traditional view of management information systems. The literature is abundant with phrases such as:

> "If a management information system is designed with social and behavioural design principles in mind, it is more likely to be effective and to be adaptable than if only the technical principles are concerned."
>
> McCosh Rahaman and Earl 1981

Whilst I whole-heartedly agree with this principle, if designers have had social and behavioural principles in mind they appear to have had little appreciable impact on the typical management information system. Argryris (1980)describes these behavioural principles as caveats that merely camouflage the essentially unilateral control features of the systems.

The process of interpretation as noted in these chapters enables managers to form a definition of the situation or event by assigning meaning to the data or "mere" information supplied to them or which they gather for themselves. They are in effect making sense of situations or "finding out what the hell is going on." As I have noted the important factors in the construction of a definition of a

situation are; firstly, the physical and temporal properties of the situation or event. Secondly, the involvement of others in terms of the reliability of the sources of the mere information; the involvement of others in the situation or event, both in its cause and its solution; and the anticipated impact on and response from others to the situation or to any action the manager may propose to take. Finally, the likely impact or consequences the situation, or any proposed action, may have on the manager's function or himself. The official documented information with its pre-determined and quantitative format cannot hope to provide the richness of detail necessary to construct a full definition of the situation. And thus once again it is necessary to consider the role of the so called "informal"information source, or to examine the process of informing in its entirety.

A further point to note from these past three chapters is that individuals develop idiosyncratic approaches to interpreting, and thus, using information. Gorry and Scott Morton (1971) have noted that the typical management information system aggregates and summarises information as it filters up through the levels of management. The authors argue that such information is not the type required by the managers at the various levels. Neustad (1960)reinforces this point with an illuminating study of American Presidents:

> "It is not information of a general sort that helps a President see personal stakes; not summaries, not surveys, not bland amalgams. Rather...it is the odds and ends of tangible detail that pieced together in his mind illuminate the underside of issues put before him. To help himself he must reach out as widely as he can for every scrap of fact, opinion, gossip, bearing on his interest and relationships as President. He must become his own director of his own central intelligence."
>
> Neustad 1960

Thus, it is argued by Gorry and Scott Morton that managers require significantly different types of information to carry out their function at the various levels of the organisation. I would further suggest that information requirements may not only differ between different levels but also within each level. Managers performing ostensibly the same functions may develop different approaches to, and therefore require, different types of information. Again, the typical management information system, with its restricted content, format and mode of presentation cannot hope to fulfil the particular requirements of each manager. Once again the"informal"sources are more flexible for this purpose.

Within the literature the purposes of management information systems most typically emphasised have been those of the planning and control of resources. Given this emphasis,the typical information system at production level is characterised by the measurement of pre-selected transactions (inputs and outputs). These measures, usually quantitative, are presented in a format which facilitates the comparison of measured performance with planned performance, either through variances or percentage efficiencies. The purpose of such a system is the detection and correction of error, Argyris (1980), error being the discrepancy between actual and planned performance. The plans act as targets which motivate managers and operators and act as a device which co-ordinates the activities of the various subsystems and individuals within the organisation and thus ensuring consistency between the various parts. Performance is evaluated by measuring the degree to which the targets were reached.

With this perspective the management information system is designed

for control purposes, rather than for the process of informing. Argyris (1980) describes the management information system as a mechanism of unilateral control; Boland (1979) describes it as attempting to achieve 'control over' members of the organisation; and McCosh Rahaman and Earl (1981) note "An organisation attempts to 'influence' the behaviour of its members through its MIS." The typical management information system, it appears, is not designed to provide the basic data for managers to "find out what's going on" or to make sense of the events or situations taking place within the organisation. In terms of informing the management information system may provide a basic referent to give the managers "a general view" or to inform them of "trends" which is a valid purpose. However, viewed as the single legitimate source it fails to provide the type of data managers require, at least at the operations level of an organisation.

If the purpose of a management information system is indeed for control, then its effectiveness is dependant on the members of the organisation, who are subject to this control, decoding, using and responding to the "information" supplied by the system. In the Avon factory this did not in fact happen. The managers explicitly stated that MADCAP was not a control document, (page 106). I would suggest that our knowledge of the process of control, which the management information system may be part of, is as sadly lacking as our knowledge of the process of informing. Possibly a future observational research project may pose the question, How do managers control each other?

NOTES

1. In Boland's (1979) terminology; an important "self indication" or what the individual pays attention to in dealing with information is himself or his role. This may be subsequently modified by interpretations or the myths, stories, symbols and ideals shared with others.

2. Gore (1956) notes that "being in the know" enhanced one's position within the organisation; the managers at Avon appeared to be aware of this.

3. Ambiguity, uncertainty or equivocality in the decision-making process has been recognised by a number of authors (Cohen March and Olsen (1972) Mintzberg (1973) Weick (1977); and Hayes Wolf and Cooper (1981).)* Weick stresses thataperson may have to "act in order to find out what he is doing" or in my rhetoric may have to "try it and see." These issues will be discussed in the following chapters.

4. Joint action will be discussed in chapters 9 and 10.

5. Pettigrew (1972) examines the relationship of information and power, stating that an individual with access to information, could act as a "gate keeper" and control the flow of information and thereby achieve his own goals or influence the outcome of a situation.

* The references to Hayes Wolf and Cooper (1981) are drawn from a Working Paper. This paper has subsequently been published with the authorship re-arranged to Cooper Hayes & Wolf (1981).

CHAPTER 9

IMPROVISATION AND SELECTING A COURSE OF ACTION

In the previous section I stated that individuals acted towards things on the basis of the meaning those things had for them. Until now I have concentrated on the manner in which the managers at Avon assigned meaning to the data or 'mere' information they received from the various sources and thereby forming a definition of the situation. In this chapter I intend to examine in more detail, the process by which managers select or choose a course of action based on that definition of the situation.[1]

9.1 Deciding On a Course of Action

The middle managers at the Avon factory were confronted with a continual series of events or situations, many of which were defined as problematic and as requiring action by them, by other managers or by both.[2] The very definition of the situation itself would include an anticipation of the need for action by themselves, by others or the need to enter into joint action with others. I have noted that a manager would inform another of a situation or event if he defined it as requiring action by that other. The process which remains to be explored is that of how a manager selects or decides on a course of action, given that he defines the situation as requiring action by him.

It is possible to view the multiplicity of problematic situations that confront a manager in his daily activities as a continuum, ranging from familiar, recurrent situations to unfamiliar, unique situations. However, a situation is not familiar or unfamiliar in an objective

sense; rather, the familiarity or unfamiliarity is part of the subjective meaning that the situation has for the manager. It is the manager's definition of the situation in terms of the degree of familiarity or unfamiliarity, that will place that situation on the above continuum. In keeping with the symbolic interactionists' tradition I would suggest that a manager would act differently towards a situation that he defines as being familiar, than towards a situation that he defines as being unfamiliar. Thus, the degree of familiarity or unfamiliarity that a situation has for a manager will influence his choice or selection of a course of action.

9.2 Familiarity

If a manager defines a situation to be wholly familiar it has the following implications. Firstly, it implies that the situation is recurrent and that the manager has personal experience of what he takes to be similar situations in the past. Secondly, it implies that the manager is convinced or certain that the definition he holds of the situation is correct. Finally, it implies that the manager has experience of the consequences, both to himself and others, of any action he might have taken on such situations in the past. Thus, if the manager is satisfied with the consequences of his previous actions for similar circumstances in the past he may simply repeat that course of action for the contemporary situation. In other words the manager may act on "retained wisdom" Weick (1977), employ a "scripted response" Mangham(1979)or employ a "programmed solution" Simon (1960).

Schutz (1964) argues that much of our daily lives are governed by more or less patterned, repetitive forms of behaviour. I have noted above that familiarity implies that the manager is convinced or certain that

the definition he holds of the situation is correct. Schutz (1964) however, suggests that such precision implied in the above statement is rare in an individual's daily life.

> "From heritage and education from the manifold influences of tradition, habits and his own previous reflection, his store of experience is built up. It embraces the most heterogeneous kinds of knowledge in a very incoherent and confused state. Clear and distinct experiences are intermingled with vague conjectures; suppositions and prejudices cross well proven evidences; motives, means and ends as well as causes and effects, are strung together without clear understanding of their real connections. There are everywhere gaps, intermissions, discontinuities. Apparently there is a kind of organisation by habits, rules and principles which we regularly apply with success. But the origins of our habits is almost beyond our control: the rules we apply are rules of thumb and their validity has never been verified."
>
> Schutz 1964

Schutz (1964) argues that given this lamentable picture we are able to operate quite readily in our everyday lives, for the ideal of everyday knowledge is not certainty but just likelihood. Anticipation of future states of affairs are conjectures about what is to be hoped or feared, or at best, about what can be reasonably expected. Schutz describes this kind of knowledge as "cook book knowledge" and it is all we need for conducting the activities of our everyday lives. He depicts our lives as:

> "performed by following recipes produced to automatic habits or unquestioned platitudes."
>
> Schutz 1964

Thus, although a manager may not have absolute certainty about a situation he may nevertheless act towards that situation <u>as if it were</u> familiar or similar to previous situations. The manager's actions

may be based on knowledge in terms of likelihood, not certainty, or on reasonableness, not accuracy (Weick 1977).

9.3 Unfamiliarity

With this view, a degree of ambiguity is always present. If the manager defines a situation to be familiar or recurrent he may largely ignore this ambiguity. However, if the manager defines a situation to be unique or unfamiliar he will have explicitly recognised this ambiguity and the resulting uncertainty surrounding his selection of a course of action.[3] All situations at one time, must be unique or unfamiliar to a manager, all situations at one time must be shrouded in ambiguity, uncertainty and equivocality. In defining a situation to be unfamiliar a number of actions may follow.

Firstly, a manager may seek to reduce ambiguity, uncertainty or equivocality by seeking additional information from other sources which may alter and thereby clarify his definition of the situation. On page 248 I have noted that managers sought additional information from other sources to confirm or clarify their definition of a situation in ambiguous and critical situations, to avoid acting on a misinterpretation and thereby avoiding subsequent unpleasant consequences. Weick (1979) recognises the ambiguous, equivocal and uncertain nature of information and suggests that managers strive for a workable level or certainty. In gathering additional information the manager is attempting to make the unfamiliar or ambiguous, familiar or unambiguous, whereby he can call into play his standard course of action.

Secondly, even if a manager forms a reasonable definition of a

situation by gathering information from a variety of sources, he may still define the situation to be unique, and be uncertain of what course of action to adopt. In such a situation the manager may seek advice from another, who he feels might have experienced a similar situation in the past and who has a solution or an appropriate course of action. Jim Brown sought Charlie Johnson's advice on planning issues in view of Charlie's forty years experience on the shop floor. In such a situation the manager attempts to imitate or follow another's course of action. The manager in effect borrows wisdom from another.

Finally, a situation may remain ill-defined or unique to everyone. If a manager is unable to make the unfamiliar familiar and implement a standard course of action, or if he is unable to imitate or follow a borrowed course of action, he may simply opt not to take any action and thereby allow the problem to persist. However, if this is unacceptable, he will have to experiment with or develop a new or novel course of action.

Weick (1979) suggests that the above situation which depicts ambiguity and uncertainty surrounding both the definition of the situation and the selection of a course of action as being characteristic of much of a manager's daily life. He depicts everyday events as surging rather than emerging, implying that these events occur suddenly rather than gradually. He depicts our daily lives as jagged and discontinuous rather than smooth and continuous. Surprises are plentiful and puzzles more dogged than we would wish. Our daily lives then are uncertain, ambiguous and equivocal. He describes his view of an organisation as follows:

> "The metaphor we prefer is one which argues that organisations keep falling apart and they require chronic rebuilding. Processes continually need to be reaccomplished."
>
> Weick 1979

This view of social life depicts the individual in a stream of surging, sudden, equivocal, uncertain events. Social order appears as a fragile web continuously on the brink of chaos.[4]

How then does a manager deal with a persistent ambiguity and uncertainty? How does a manager construct a new or novel course of action which is appropriate to the unique or unfamiliar situation he is faced with?

Schutz (1964) who fosters the portrait of a more patterned, habitual regularity to social life recognises that an individual will be confronted with situations which require him to stop and think, rather than simply doing or acting out his standard responses. Borrowing from the ideas of John Dewey, Schutz (1964) argues that in such a situation the individual will think in the "future perfect tense." In doing so he will plot out or imagine the outcome or consequences of a variety of alternative courses of action. However, he stresses that the alternatives will be grounded in the individual's stock of recipes" or in the "rules and skill arising out of his vocational life." Schutz argues that even if an individual seeks advice from some expert he will get nothing else than recipes and systematized solutions. He further argues that;

> "His choice will be a deliberate one, and having rehearsed all the possibilities of action open to him in the future perfect tense, he will put in action that solution which seems to have the greatest chance of success."
>
> Schutz 1964

Schutz (1964) recognises that the rehearsed or imagined action may have gaps and discontinuities and the actor may have some uncertainty about its chances of success, therefore he may only retrospectively see whether it has "stood the test or proved a failure." (Schutz 1964).

Schutz's insistence that the individual will rely on his stock of recipes or recipes from experts (or others) fails to account for situations where the alternatives "open" to an individual appear to have little or no "chance of success!" Schutz relies on the situations depicted above where the individual attempts to make the unfamiliar familiar or attempts to force a standard course of action to fit an ambiguous or uncertain situation. Schutz (1964) further fails to explain what happens when the course of action proves a failure; are we to assume that the individual embarks on an endless programme of trying out each of his standard recipes, hoping through trial and error to arrive at a suitable solution ?

Weick (1979) who fosters the portrait of a more irregular surging nature to social life suggest that we adopt a "try-it-and-see" approach to persistently ambiguous, equivocal or uncertain situations. Weick argues that we must "act in order to see what we are doing." Thus, if a manager is confronted with a situation in which the definition is ambiguous or in which the course of action is uncertain, he is only able to make sense of that situation after he has initiated or taken some action. Weick does recognise that wisdom may be retained from experience of previous situations and actions, which in turn will impinge on contemporary action. Weick further recognises that an individual may think in the "future perfect tense" which he describes as thinking of the acts as if they had already been

accomplished, however it is the "reflective glance" from this anticipated outcome that permits the act to be accomplished. Given that he recognises the above points Weick persists in stressing the concept that individuals and managers do not really know what they are doing until they have done it.

Where as I noted that managers did "try it and see" (page 249) I would suggest that their action must at least, be based on some previous enactment, recipe or imitation of another's action. On the other hand, I would further suggest that a manager may also develop new or novel approaches to unique unfamiliar situations. This is implicit in Weick's concept of enactment selection and retention. Enactment entails the actor who is immersed in experiential streams bracketing, punctuating or chopping up the stream of experience into sensible, nameable and named units and then imposing relationships, typically causal relationships,among the punctuated elements. In my interpretation, in order to judge something to be sensible or to name something, the individual will have had to have experience, either first hand or second hand, of these sensible named units. I feel that Weick whilst recognising the role of retained wisdom or retention fails to fully develop the process whereby previous experience impinges on the selection of a course of action in a current ambiguous, equivocal or uncertain situation. Whereas Schutz errs towards the rigid adherence to recipes or standard action, Weick errs toward an almost foolish "Gung-ho," "devil-may-care" attitude. What is required is a metaphor which will link past experience or standard patterned behaviour with the development of new or novel forms of behaviour. The metaphor I propose is Jazz, with its twin concepts of improvisation and arrangement,[5] and its emphasis on creativity, novelty and innovation.

9.4 Novelty Innovation and Improvisation

The term improvisation occasionally appears in the sociological and social psychological literature; however, it does not appear to be developed. McCall and Simmons (1966) refer to the relationship between an individual's personal identity and social identity as being improvised to deal in some variable fashion with the broad demands of one's social position and one's character. The authors, however, fail to adequately define the term improvisation or to examine in depth the nature of the process. Strauss et al (1963) noted that;

> "the administrative attitude is affected by a profound belief that care of patients calls for a minimum of hard and fast rules, and a maximum of innovation and improvisation."
>
> Strauss et al 1963

Once again the term improvisation is used, but not developed.

Although the term improvisation is not always used, the concept of developing or creating novel innovative courses of action in the face of ambiguous, uncertain or equivocal events or situations has been considered by various authors. March (1976) examines the process of choice in uncertainty in terms of "sensible foolishness" and "playfulness" as opposed to the traditional assumptions held in the literature on choice which are, the pre-existence of purpose; the necessity of consistency and the primacy of rationality. March (1976) suggests that such assumptions, if held by the decision maker, will restrict the choice process. As an alternative, and one which March (1976) suggests will promote innovative and novel solutions, it is necessary first to challenge the strictures against imitation, coercion and rationalisation and secondly to develop some strategy for suspending

rational imperatives towards consistency. March (1976) suggests that although there are dangers in imitation, coercion and rationalisation, they may also be used to widen an individual's perspective by imitating others; coercing the individual into exploring new avenues or courses of action; and permitting the individual to justify or assess their actions after they have enacted them, thus allowing for experimentation. The second requirement entails devising a mechanism that will permit the individual to perform seemingly foolish acts. To this end March (1976) advocates playfulness which he describes as;

> "the deliberate, temporary relaxation of rules in order to explore the possibilities of alternative rules.When we are playful, we challenge the necessity of consistency. In effect, we announce - in advance - our rejection of the usual objections to behaviour that does not fit the standard model of intelligence."
>
> March 1976

By encouraging foolishness March (1976) suggests that creative, innovative solutions may be developed which will provide the flexibility and adaptability necessary for an organisation to face a dynamic and changing environment. Other authors to use the concept of foolishness or playfulness are Miller (1973) and Weick (1977b).[6]

Mintzberg (1979) examines the structural configuration of an organisation which will permit sophisticated innovation. The type of structure required is termed an "adhocracy;" I shall refer to this concept subsequently. Weick (1977b) suggests that organisations should be garrulous, clumsy, superstitious, hypocritical, monstrous, octopoid, wandering and grouchy to promote innovation and novelty.

The literature on creativity, creative processes and the management of

creativity (Steiner 1965; Barron 1969; Stein 1975 and Mangham 1982) examine both individual and organisational characteristics which may, or actually do, foster and promote creativity, innovation and novelty in the choice process and in the actions of individuals and groups.

Each of these authors recognise the value of creative, innovative, novel courses of action in dealing, not only with unfamiliar ambiguous, uncertain or equivocal situations but also to question the patterned, taken-for-granted standard responses to problem situations. Mangham (1982) suggests that;

> "In every conceivable type of agency, creativity is at a premium if these bodies are to respond effectively to challenges which confront them."
>
> Mangham 1982

Whereas many of the authors appear to be prescriptive or normative, implying that novelty, innovation and creativity should be encouraged, either by promoting individual creativity or designing appropriate organisations or structures, I would suggest that individuals in organisations and certain individuals in the Avon factory were already creative and innovative; furthermore they had evolved means of developing and expressing their creative, innovative thoughts and actions within the existing organisation.

To describe and articulate this process of creativity and innovation within an organisation context I have chosen to use the metaphors of improvisation and arrangement as found in the music form of Jazz. In order to find an adequate definition of these terms I shall now briefly examine the musicological literature on improvisation in this

chapter and in the following chapter I shall examine the notion of an arrangement.

9.5 Jazz Improvisation

Music as a metaphor is not entirely unique. Levi-Strauss constantly refers to the structural similarity between myth and music and declared that:

> "The myth and the musical work are like conductors of an orchestra, whose audience becomes the silent performers."
>
> Levi-Strauss 1970

Edmond Leach (1976) offers an explanation to this rather opaque statement:

> "At one level he is simply making the point that senders and receivers of messages which are contained in cultural communications are very often the same pople. When we participate in ritual we 'say' things to ourselves. But the same sequence of behaviour may mean different things to different people. In general all Christian sects share the same myths and engage in the same rites, but they disagree passionately about what they mean."
>
> Leach 1976

The remainder of the discourse enters into a detailed argument of the relationship between melody and metonymy and harmony and metaphor.

Faulkner (1973) examines the collective action of making orchestra music; he identifies the conductor as a focal participant and argues that his authoritative directives are socially constructed and sustained. He then discusses these concepts with regard to their

implications for the study of organisational dynamics generally.

Specifically relating to Jazz a number of sociologists have studied various aspects of Jazz, particularly in association to the musicians' communities, values, attitudes and beliefs. Stebbins(1966 - 1968) examined the Jazz community and the class, status and power among jazz and commercial musicians. Becker (1951) examined the professional dance musicians' attitudes towards commercial music and his audience. Means (1968) used biographical data to examine the phenomena of jazz in terms of social mobility, social communication and self expression. Each of these studies present an illuminating picture of the life styles, attitudes, values, beliefs and community of the Jazzmen, without providing a working definition of the term improvisation.

Cameron (1954) provided some sociological notes on the jam session, the arena in which the jazz men experimented and strived to great lengths to achieve novel, innovative, improvisations. (I shall draw on this work in the following discussion.)

I have only been able to find one author who has related the musical concepts of improvisation and in this case modulation, to some aspect of human behaviour. Ramos (1978) a symbolic interactionist, provides an article entitled 'The Use of Improvisation and Modulation in Natural Talk: An Alternative Approach to Conversational Analysis.' The argument, supported by a short conversation and follow-up interviews with the conversants as data, argues that a conversation may be seen as an extemporaneous composition produced by persons practicing the art of improvisation, and that conversants, like musical composers,

make topic changes within extemporaneous compositions by using a procedure analogous to the modulation process used in music composition. Although this paper provides some interesting material and ideas, I feel it fails to develop the concept of improvisation fully enough; this is partly due to the fact that he works with a deficient definition of improvisation.

For a suitable definition of improvisation it is necessary to go to the musicology literature on Jazz, firstly to understand what Jazz is, what improvisation is and how it is employed in the musical performance.

Finding a definition for Jazz is exceedingly difficult, principally because it is difficult to define verbally the characteristics of an art which employs non-verbal media of communication. Musicologically it is possible to define the general principles of Jazz in terms of its unique phrasing, its harmony, its melody and its rhythm. Such a definition would be of little use in the issue in hand.

Possibly the most appropriate definition is that;

> "Jazz is a players' music. Everything in it is subordinated to the individualities of the players, or derives from a musical situation when the player is supreme. A piece of jazz is not reproduced, or even recreated, but - ideally at least - created and enjoyed by its players every time it is played. Hence - once again ideally - no two performances of the same piece by the same band should be exactly alike."
>
> Newton 1959

Within this portrait of Jazz the individual musician strives for creative improvisation each and every occasion he performs. Although such extremes are rare in our everyday lives I shall argue that all

behaviour at one time must have been improvised.

Dictionary definitions of the term improvisation resemble the following:

> IMPROVISATION: The art of performing music spontaneously, without the aid of manuscripts, sketches or memory. Also in a more restricted sense, the art of introducing improvised detail into written compositions.
>
> Harvard Dictionary of Music

> IMPROVISATION: The creation of a musical work or the final form of a musical work as it is being performed. It may involve the work's immediate composition by its performers, or the elaboration or adjustment of an existing framework or anything in between.
>
> Grove Dictionary of Music and Musicians.

Implied in the first definition, as well as in most lay persons' understanding of the term, is the idea that improvisation is an activity which requires no forethought or academic definition. This definition however, is oversimplified and greatly distorts the complexities of doing jazz improvisation. (Ramos 1978). The second definition is more satisfactory, for Jazz is the art of extemporaneous composition or creation of a musical work during the performance. Such creativity[7] or composition can be of a complete work or merely ornamentation around notated parts.

A jazz musician, during a live performance, must know what he is doing. He must know the general framework on which he bases his improvisation which includes the following features of the composition

or tune: the length, the thematic and harmonic structure, the length of the different sections of the tune, the tonality of the tune. Moreover, he must know the chord progression on which the tune is based and the emotional quality of the tune. Coker (1964).

Therefore every jazz improvisation is based on a theme, the theme is usually a popular song. The jazz musician improvises by placing new melodic lines over the given harmonies of the song. He can do this by ornamentation, that is embellishing or making slight alterations in the song. Andre Hodeir (1956) calls this manner of improvising "paraphrasing." He can also improvise by creating entirely new melodic lines over the given harmonies - a manner of improvising Hodeir calls the "chorus-phrase." The decorative embellishing "paraphrase" was the main improvisation of the older jazz forms. The "chorus-phrase" which creates entirely new melodic lines, is the main improvisatory manner of modern jazz (1945 onwards).

Thus a single theme, for instance the song "How High the Moon" with its related harmonies could be improvised in three different ways, by three different musicians. What is more, the improvisation may take the form of ornamentation or three completely different melodic lines could be introduced.

Herein lies the crux of the metaphor. Improvisation, i.e. developing or selecting a new innovative course of action is based on a theme or on a previously experienced course of action. I would suggest that a new course of action, surrounded by ambiguity and uncertainty, developed or selected by a manager must be grounded in his previous actions or in imitating others' actions. The improvisation may take

the form of embellishment or ornamentation around the theme such that the theme remains recognisable, this is called paraphrasing. On the other hand the improvisation may be of a greater order where a dramatically new or novel form of behaviour is constructed, such that the theme ceases to be recognisable, this is called chorus phrasing.[8]

I have depicted familiarity and unfamiliarity, which implies certainty and ambiguiety, as a continuum. A situation or event may be more or less familiar or more or less unfamiliar. I would suggest that with greater defined familiarity improvisation will be of a lower order (paraphrasing). However, with greater defined unfamiliarity, improvisation will be of a greater order (chorus phrasing).

Repetition ⟶ Paraphrasing ⟶ Chorus phrasing

Defined Familiarity ⟶ Defined Unfamiliarity

Unambiguous, certain, unequivocal ⟶ Ambiguous, uncertain equivocal.

The following are three examples taken from my field notes:

In Jim Brown's office.

Charlie Johnson	According to Tim a couple of days.	Rotoform 3 be down for The bottom heater is buggered.
Jim Brown	(Glancing at a board) Ski 8 oz. collation; how many's formed?	

Charlie Johnson — 18, 20 thousand, 'bout half way through the run.

Jim Brown — They need them in dispatch noon tomorrow at the latest. (Again looking at his board). Rotoform 1....(he paused for a moment). for stock really. I suppose we had better break the run, put the Ski collation on that.

Charlie Johnson — Right OK. I'll get the tools switched, better tell Cyril though.

The standard response in dealing with rush orders was to switch the rush order to the least urgent order (usually a stock item). In this case the situation was almost wholly familiar, and no improvisation took place. The action taken was a repetition of previous courses of action.

On the shop floor: Jim Brown and Peter Travers were talking to Charlie Johnson and Cyril Jenkins. The order they were discussing was a first time customer from Saudi Arabia, and therefore there was a great amount of concern.

Cyril Jenkins — What's the state of play?

Jim Brown — It's been down for an hour, doesn't look promising.

Charlie Johnson — It's spraying oil on to the sheet, it will take a while to clean the tool let alone fix the leak.

Cyril Jenkins — Well we'd better get the tool out, get it ready for another machine. Jim which would be best?

Jim Brown — Well that's the problem, none would be best, Charlie you tell him.

Charlie Johnson — I know it sounds bloody stupid but this job will only run on RDM 3. You see it's the oldest machine the bearings on the draw rollers are worn and it's the only one which can take this thickness of material. We have to put on more bottom heat to cope, and Tim says that's what's caused the leak.

Cyril Jenkins — When are they needed,Peter?

Peter Travers — Friday morning.

Jim Brown — That gives us 8 shifts to run 200 thousand, that's cutting it fine without the breakdown.

Peter Travers — The only thing I can think of is injection moulding (the sister plant at Aldershot). They make a 4 litre square lid, it's better quality and more expensive, but this could be a big customer.

Cyril Jenkins — Yes, have they any stock?

Peter Travers — Could find out.

Cyril Jenkins — OK, and I'll have a word with Chris.

They brought the lids in from Aldershot and Chris Davis who was shocked

that only one machine, and the most unreliable at that, was making such an essential lid decided that the injection moulding lids should be used from then on and customers noted of the increase in quality and price.

In this interaction the situation appeared familiar, yet it had a twist that required a novel solution, which was introduced into the interaction by Peter Travers. Peter was therefore improvising, he was in fact improvising on a theme. When extruder capacity was a major problem, extruded sheet was brought in from outside suppliers, John just embellished upon this theme. Although he admitted this to me afterwards he was still pleased that his solution worked.

In Chris Davis' office:

A meeting was called to discuss the implications of the Lorry Drivers' Strike and the Pickets at the front gate. Present at the meeting were Chris Davis, Cyril Jenkins, Ian Harrison, Peter Travers, Mike Shilling, Jim Brown, Charlie Johnson, Martin Keyes and Sean Davies. (The following are extracts from the meeting.)

Chris Davis outlined the situation. The pickets were not on RTG property and had every intention of preventing goods and materials from entering or leaving the factory. He then requested comments:

Mike Shilling — If they don't let anything in or out we'll just have to shut down.

Cyril Jenkins — OK, I agree, but that must be the last resort,

we don't want to lose production or orders from the customers.

Peter Travers — We're all in the same boat; Sweetheart Plastics and Metal Box have pickets at their gates so we're not going to loose any orders.

Jim Brown — I know this won't help production but are the pickets at the outside warehouses? (RTG had no warehouse facilities on site but rented space from other local firms).

Sean Davies — Pickets are everywhere, the whole of Elliswood Estate is closed down.

Martin Keyes — If we can't get goods to the customers why don't we keep the machines running by building stock.

Charlie Johnson — And where are we going to bloody store them? There's nowhere on site.

Cyril Jenkins — Well we've got a little room in the loading bay, but we would fill that in a day.

Martin Keyes — We could cut back on production, maybe only work one shift or three days, then we wouldn't fill up the loading bay so quickly.

Charlie Johnson — Why should we? We still can't get the goods to the customers. All we'd have is more bloody conjestion when we started working at full capacity again.

Peter Travers — No. Wait a minute. There's some sense in what Martin says. It would be good to have some stock for Van den Berghs and Birds Eye so we could send them out immediately after the strike, otherwise we will lose customers. They'll try Sweethearts and Box, if we haven't got any stock.

(The conversation then centred around what goods to concentrate on and which individuals would be laid-off)

Chris Davis — OK. That's worth considering, but it's not much of a solution...Assuming we close down or cut back how do our customers stand, what levels of stock have they got?

Mike Shilling — It doesn't matter really, they're going to be picketed as well. If they're not producing anything they won't need pots.

(A general murmur of agreement.)

Jim Brown — Ah, but is that right? They're not picketing food manufacturers. Birds Eye, Van den Berghs, Walls, Cadburys, Express Dairies, Rowntrees; they're all food manufacturers. So they can go on producing until they run out of containers.

Chris Davis — If you look at it that way I suppose RTG Plastics is part of the food producing industry.

Peter Travers — Yeh, if they haven't got containers they can't produce the goods.

Jim Brown — It's all part of a long chain.

Chris Davis — But will the pickets agree? Sean, you know some of the drivers.

Sean Davies — It might work, but remember we make other goods, I mean the seed trays, they're not for the food industry, and they know that.

Chris Davis — Well we could cut that run, a representative could come in and make sure we're producing nothing but food containers.

Persuading the pickets took a long time, Union Representatives had to be contacted but they finally agreed.

The Lorry Drivers' Strike was a unique situation; RTG Plastics had no experience of such a situation before. Ambiguity, uncertainty and equivocality surrounded both the definition of the situation and the selection of a course of action. Following this interaction through, vividly depicts the process of improvisation. Chris Davis presented data or what he knew about the situation. Mike Shilling's immediate response was a standard or imitated theme; production plants throughout the country were closing down because of the Pickets. At such an early stage in the discussion this course of action was defined by Cyril Jenkins as unacceptable. The following interaction was an attempt to clarify the situation by seeking additional information. Peter Travers informed the meeting that their competitors were in "the same boat." Jim Brown questioned whether the warehouses were picketed. This avenue was closed when Sean Davies informed them

that they were. At this stage Martin Keyes introduced another theme, that of building stock. Stock building could be defined as a standard theme, it was RTG Plastic's practice to build stock at Christmas when orders were low.

Charlie Johnson, in addition to disliking Martin Keyes (see page 252) quashed this suggestion as he felt it was unreasonable i.e. it was not feasible to store the goods on site. Cyril Jenkins however picked upon on this theme, and played through or thought in the future perfect tense. Martin Keyes was quick to improvise i.e. work a three day week. Charlie Johnson again anticipated the consequences and again decided that this suggestion was unreasonable; the goods still could not be transported and congestion would result. Peter Travers, thinking in commercial terms, emphasised a different set of consequences, suggesting that by building some stocks they could have edge over their competitors when the strike ended. Further information was then exchanged.

Chris Davis took the point but did not regard it as a particularly worthy solution. He then switched the thrust of the discussion from a production orientation to a customer orientation.[9] Mike Shilling, noted for his negative disposition, attempted to "put the dampeners" on the discussion once again. Jim Brown, who as I have noted (page 252) did not particularly like Mike, introduced a new element into the discussion. It was at this stage that the real improvisation took place. This new theme was grounded in Jim's second hand knowledge that food manufacturers were not picketed, and his own realisation that most of RTG Plastic's customers were food manufacturers. Playing this theme through Chris Davis began to redefine the

situation and in doing so the whole nature of RTG Plastics. Until that point RTG Plastics was in the packaging industry, now it was in the food processing industry. Peter Travers and Jim Brown were quick to realise the potential of this definition and gave support to Chris Davis. A new course of action now emerged which was to persuade the Pickets to allow food containers to be transported. However, the interaction did not finish here. Chris Davis anticipated or thought in the future perfect tense that the Pickets might not be easily persuaded. He therefore tested the reasonableness of his new course of action by questioning Sean Davies who was a personal friend of the Pickets. Sean Davies commented that the solution was a possibility and had some chances of success.

In this process of improvisation, a novel innovative solution was created which fulfilled the other definitional requirement of the term creativity, in that the solution was accepted as useful, tenable if not entirely satisfying, by the other managers who would constitute the significant others (see chapter note 8).

The key points to the process of improvisation are that a manager will call into play a theme or standard course of action. He will play that theme through, either in minded behaviour (see page 237) or in an interaction, that is, by talking it through with others. If the anticipated outcome is reasonable, he might simply act out or repeat the selected theme. If the theme is not entirely appropriate, he might alter the theme, through paraphrased or chorus phrased improvisation. If the improvisation does not appear to work within the ambiguous context on hand, he will then call into play a new theme and improvise around that. This process will continue until the

manager arrives at a course of action which appears to be appropriate or reasonable to his definition of the situation, which in itself may be highly ambiguous.

The above analysis still pre-supposes that an individual is able to construct a course of action prior to taking action, that is it assumes the individual deliberately selects a course of action. This view is in keeping with Thomas (1937) where he states:

> "Preliminary to any self determined act of behaviour there is always a stage of examination and deliberation."
>
> Thomas 1937

In such situations, which do occur, the improvisation will be introduced prior to taking action. However as noted by Schutz (1964) such anticipations or rehearsals are incomplete, they have gaps and discontinuities. It might be, that during the action, the manager may have to alter his course of action by further improvisation or by introducing a new theme which in turn may be improvised around. This occured in the example of the black specks in the extruded sheet (see page 164) where a number of themes were called into play. Thus improvisation could take place during the action. This is in keeping with the view of Manis and Metzer (1978).

> "Human beings construct their behaviour in the course of its execution."
>
> Manis and Meltzer 1978

Finally improvisation might take place after the action is completed. As Weick (1977) states:

> "Sense making in each of these cases often involves the individuals examining reflectively their own action, in order to discover what they have done and what the meanings to those actions are."
>
> Weick 1977

Thus the manager may rationalise his action after it has been carried out. If the action is not wholly appropriate he might then improvise during the "post mortem" and introduce those improvisations into subsequent courses of action for what are taken to be similar situations in the future.

9.6 Improvisation and the Creation of Standard Themes

I have noted on page 276 that all situations at one time must be defined to be unfamiliar or unique and therefore all courses of action must have their base in improvisation. How then do standard themes or regular, patterned courses of action emerge on which future improvisations take place? Again it is possible to refer to the literature of jazz for an explanation of this process.

Continual performances by jazz musicians ensured that the most important jazz improvisations became classics or standards. A chorus phrase of excellence would be played over and over again, with minor embellishments, until it became recognised as one of that musician's standard themes. Such standard themes were recorded or remembered by other jazz musicians. They were then imitated and/or improvised upon by these other musicians to the level of skill and ability the imitator was able to achieve.

Thus a course of action which may be retrospectively deemed to be reasonable or appropriate in a given context or for a given definition

of a situation would be repeated and initiated by others thus becoming a standard course of action. This theme could then be subjected to future improvisation by the creator or by the imitator. The two examples of improvisation cited above became standards and were absorbed into the total set of patterned behaviour that went to make up the factory's social order. The more expensive yet more reliable source of lids continued to be brought in from the injection moulding division at Aldershot and the managers continued to define RTG Plastics as being in the food manufacturing industry.

Each act, no matter how habitual,must have its origins in an individual's inspiration or improvisation; however the origins of our behaviour are often beyond our recognition (Schutz 1964). Our actions,through repetition,become taken-for-granted and cease to be credited to the originator.

9.7 The Individual's Ability to Improvise

From my observations it appeared that certain individuals were more willing and able to improvise than others. Jim Brown, Peter Travers and Chris Davis often engaged in imagining or experimenting with new or novel courses of action for unique, unfamiliar situations and new or novel courses of action for recurrent familiar problems. Jim Brown introduced planned maintenance to solve the problem of unreliable machines (see page 101). Chris Davis introduced a three shift system to increase capacity and Peter Travers introduced a longer lead time for customer orders to minimise the occurrence of rush orders. Other managers, namely Charlie Johnson, Mike Shilling and Martin Keyes appeared to be less able to improvise. As noted in the example of

the Lorry Drivers' Strike Mike Shilling simply stated the most obvious theme or course of action and stuck with it. When Jim Brown was appointed as Planner, Mike Shilling who had held the post in the past, predicted that Jim Brown would fail to implement planning, he held the view that it could not be done. Charlie Johnson with his forty years experience was very habitual in performing his function and found the rapid changes introduced by the "bright boys" of RTG "difficult to cope with." Martin Keyes although a "bloody good machine operator" failed to cope with the job of Planner and Material Controller.

With closer observation of who I regarded as the more creative, innovative, improvising managers, namely Jim Brown, Peter Travers and Chris Davis, they displayed the following characteristics. Firstly, they had high levels of energy, actively involving themselves in situations and events, seeking out information from a variety of sources. Each of these managers visited the shop floor at least once a day and Jim Brown visited it more often. Secondly, each manager tended to view the status quo, the rules and traditional ways of getting things done as something that could be adjusted or modified. Rather than viewing convention as sacred, they regarded it as something that could be undermined or manipulated. Chris Davis was defined as a "trouble shooter" and was there to "sort things out" as he had done in RTG Cups. Jim Brown on being appointed as Planner questioned what he defined as the fallacies about what could and could not be done (see page 146). Peter Travers was promoted because of the changes he introduced in the Sales Department and the contribution he made to production planning. Thirdly, each manager desired to excel, not necessarily at the expense of any other party, rather they were interested in achievement or doing something well. Jim Brown was acutely aware of his personal and social identity and desired

recognition as a competent manager and desired to avoid the stigma of being defined as a "bloody idiot," (page 151).

Within the literature on creativity a number of characteristics are associated with creative individuals. Barron (1969) lists the following; spontaneity, relatively little interest in relations with others, independence, impulsiveness, self-assertion and non-conformity. Stein (1974) lists self-confidence, courage, tolerance of ambiguity, and the capacity to move forward in the face of anxiety. These characteristics have been identified in highly creative individuals and I would hesitate to attribute them all to Chris Davis, Peter Travers and Jim Brown. However, these characteristics all connote high energy, a propensity towards non-conformity and a desire to move ahead or excel. The managers at Avon no doubt exhibited these characteristics to a lesser degree than the creative artists and scientists; however, they exhibited them to a greater degree than the majority of other managers in the factory.

Apart from personal or individual characteristics, a number of authors have cited what might be described as organisational characteristics which may promote or impede creativity, innovation and improvisation.

Weick (1979) notes that organisations viewed and operated on the "military" metaphor may induce repeated, patterned solutions to even new or unique solutions and as noted on page 271 Weick (1977b) suggests that organisations should be deliberately garrulous, clumsy, superstitious, hypocritical, monstrous, octopoid, wandering and grouchy to break patterned behaviour and induce a more novel, innovative

approach to problem solving or decision making. Cohen, March and Olsen (1972) view organisations as "garbage cans" or "organised anarchies" and as noted on page 271 advocate that innovation in such an organisation may be fostered by encouraging a technology of foolishness. Mintzberg (1979) suggests that "adhocracies" are appropriate structures for organisations that require creative innovation, for example; a space agency, an avant-garde film company, or an integrated petro-chemicals company.

Hayes, Wolf and Cooper (1981) relate the model of organised anarchy and the technology of foolishness to a budgetary control process, suggesting that whereas the budgetary control process may facilitate imitation, coercion and rationalisation they rarely, if ever, facilitate playfulness. The authors suggest that by reducing the emphasis on performance evaluation as prescribed by Hofstede (1967) a gamelike quality may be recognised which may improve motivation and facilitate self-actualisation (Maslow 1959). Furthermore Hayes, Wolf and Cooper (1981), based on the works of Wilson (1966), suggest that creativity, innovation and experimentation may be stimulated by an accounting system with ambiguity, high complexity, low formalisation and decentralisation, and note that informal systems with their thick description (Geartz 1973) and multiple meanings (Clancy and Collins 1979) may incorporate the characteristics required.

Argyris (1971) suggests that the pursuit of the total information system ideal may lead to increased rationality in managers lives which may restrict their psychological freedom. As Argyris notes:

> "How would individuals react to increased rationality in their lives? Will they think as many humanists believe, namely that information science rationality can lead to a mechanistic and

> rigid world which, because of its narrow concept of efficiency, will dominate man and his humaness."
>
> Argyris 1971.

Stein (1975) suggests that patterns of communication may promote or impede creativity. He suggests:

> "that centralised networks are good to collect information in one place. But if we expect to do something with the information then decentralised networks are better."
>
> Stein 1975

This observation is particularly interesting if considered in parallel with the concept of "local" and "global" information. Galbraith (1977) and "formal" or "informal" information.

The official documented, formal information tends to be centralised, presenting some global view of certain processes or transactions in the organisation. Such systems may be efficient for collecting information in one place, however the type of information tends to be abstract, quantitative and concerning common recurrent events or situations. Argyris (1980) describes this type of information as "distant MIS" and suggests that it induces individuals; to think abstractly and rationally; to conceptualise stable variance and general overall conditions and trends; to distance self from processes that produce results, and focus primarily upon the results of the performance; to identify errors that are exceptional; and to infer causality from information lacking specificity of causal processes or mechanics.

On the other hand informal information tends to be decentralised,

presenting a local and highly specific view of certain events and processes. The information tends to be highly specific, richly descriptive, qualitative, timely and reliable. Furthermore,from the data presented in chapter 4 it appeared that the managers at the Avon factory used the informal information extensively during their daily activities. Argyris (1980) suggests that this type of information which he describes as "local MIS" induces individuals; to think concretely and intuitively; to conceptualise variable processes and specific conditions; to become close to the processes that produce results, and focus on them as much as on the results; to identify errors and correct them before they become exceptional; and to infer causality from information rich with situational causality related to specific mechanisms.

The portrait of responses depicted by Argyris (1980)for the local MIS appears to incorporate some of the characteristics necessary for creative innovation or improvisation. The local MIS produces the type of information that managers require to form an acceptable or appropriate definition of the situation on which they select a theme and improvise upon it.

Within the factory at Avon another factor which encouraged creativity, innovation and improvisation was the appointment of Chris Davis and other "bright young boys of RTG." Chris Davis was himself a creative individual and appreciated that quality in others. He re-ordered the management structure giving key positions, notably production planning, to energetic and creative managers such as Jim Brown. Thus the ability to improvise was rewarded by promotion (Jim Brown was subsequently promoted to Departmental Production Manager). Steiner

(1975) suggests that to foster creativity in organisation channels for advancement should be based on creative actions. Thus, within the organisation there was a climate, created principally by Chris Davis, which fostered and encouraged improvisation. Acts of improvisation were considered and rewarded along with increased productivity and efficient utilisation of resources. Mangham 1982) notes the importance of a leader who is able to encourage, support, co-ordinate, direct and evaluate the efforts of other members of the organisation.

9.8 Agreement and Negotiation

In the examples of repetitive behaviour, paraphrased behaviour and chorus phrased behaviour, cited in Section 9.5 , the selection of a course of action in each case took place during an interaction. A number of managers were thus engaged in selecting a course of action which in turn resulted in further joint action by them. The implicit agreement to switch the rush order, entailed Charlie Johnson in rearranging his workforce and Jim Brown in rearranging his plan. Jointly agreeing to purchase lids from the injection moulding plant entailed further action being taken by the Material Buyer, Peter Travers, Jim Brown and Charlie Johnson. The Lorry Drivers' Strike agreement, entailed further action by Sean Davies in negotiating with the Drivers, Peter Travers in contacting the suppliers and Jim Brown in scheduling-out the non-food container orders. These examples may be defined as a process of getting something accomplished when parties need to deal with each other to get those things done.

Strauss (1978) argues that one of the ways of accomplishing something when parties need to deal with each other is through negotiation.

The study of negotiations origininated in 1963 with a paper by Strauss et all, which reported on an empirical study conducted in two hospitals. In this study Strauss et al argued that individuals enter into joint action through agreement and that agreement is achieved through a process of negotiation. They went on to conclude that social order; the set or rules, norms or procedure that allow for a taken-for-granted, expectable, non-surprising orderliness could be viewed as a negotiated order.[11]

In the intervening seventeen years a number of authors have written on the subject of negotiations. Within the field of medical sociology by Schatzman and Bucher (1964; Bucher and Stelling (1969), and Bucher (1970). Outside this field by Scheff (1968); Campanis (1970); Hall (1972); Emerson (1973); Abrahams (1975); Morgan (1975); Blankenship (1976); Zimmerman and Lawrence (1977) and Maines (1977). Throughout this ever expanding literature it is surprising that whereas each author freely uses the term negotiation to depict the process of reaching agreement through interaction, nowhere is there a precise definition or general working description of a negotiation.

It appears that each author has taken-for-granted the definition of a negotiation and simply expresses it in rather nebulous terms such as "bargaining" or "reaching an agreement." In fact Strauss (1978) provides thirteen synonyms of the term negotiation.

> "bargaining, wheeling and dealing, compromising, making deals, reaching agreement after disagreements, making agreements, getting tacit understandings, mediating, power brokering, trading-off, exchanging and engaging in collusion."
>
> Strauss 1978

Strauss (1978) then supplies two dictionary definitions:-

> "to treat for, obtain or arrange by bargain, conference and agreement."

* * *

> "to deal or bargain with another or others...to confer with another so as to arrive at."

Strauss provides further guidance when he argues that these definitions give no clear distinction between negotiation and agreement arrived at without negotiation or between negotiation and other modes of attaining desired ends, such as persuasion, appealing to authority or the use of coercion or coercive threat.

He describes the distinction between agreement without negotiation and agreement through negotiation thus;

> "I would draw a crucial distinction between agreement and negotiation (which always implies some tension between the parties less they would not be negotiating.) People can agree about something without negotiating (Here's £10 for your goods: Take it or leave it.)"
>
> Strauss 1978

The phrase so casually bracketed "(which implies some tension between the parties less they would not be negotiating)" is in my view crucial to the entire concept of negotiations and requires more detailed treatment.

Strauss finally concludes that negotiations are:

> "One of the possible means of getting things accomplished parties need to deal with each other to get those things done."
>
> Strauss 1978

This in my view is not a satisfactory definition. Martin (1976) provides further guidance. He describes negotiation as a process of coming to terms, he distinguishes this from bargaining which is merely an exchange whereas negotiation involves other strategies including bargaining. He further adds that negotiations are always centred on shared interests, in that both parties have vested interests in the overall interaction and these interests are salient in the process of coming to terms. This definition is so general that it may include all interaction in which agreement is reached; however, this view is refuted by Strauss. Furthermore, the other strategies he mentions are defined as "activities designed to influence an individual or group to act in a way that accords with one's goals." Such strategies presumably include pursauding, educating, manipulating, appealing to rules or authority and coersion. Strauss (1978); however, explicitly states that such strategies are not negotiations. Martin (1976) finally provides a set of pre-conditions that are required for a negotiation to take place, included in which are the need for disagreement and or ambiguity. A further contradiction is introduced by using the term ambiguity for the term vested interest and the concept of one's goals implies that the negotiator knows what he wants out of the negotiation or knows the nature of the agreement he desires before the negotiation. However, ambiguity as I have described it, implies uncertainty about the definition of the situation and the desired course of action or outcome.

The key characteristics of a negotiation implied in the work of

Strauss (1978) and Martin (1976) are: Firstly, the parties recognise that they need to deal with each other to get something done. Secondly, the parties have a "vested interest" or "stakes" in the outcome of the interaction, this in turn implies that they have some notion of their desired outcome and of the way to achieve it. Thirdly, the parties are initially in "disagreement" about the desired outcome and the way of achieving it. Fourthly, there is "tension" between the parties over the issue in hand. Fifthly, the parties are unable or unwilling to achieve "agreement" by the use of persuasion, appeals to authority, coersion or coersive threat. Finally, the issue on hand is such that the parties are unwilling to abandon it until they have reached agreement or come to terms.

I would suggest that these characteristics apply only to very specific types of interactions, notably in the area of labour bargaining, diplomatic negotiations, arms control negotiations, conflict resolutions and market bargaining. They do not, however, characterise the vast bulk of managers' daily interactions where ambiguity surrounds the nature of the desired outcome and the way of achieving it, and where there is no tension between the parties over the issue involved. Negotiations do take place in our society and organisations. However, it is not warrantable to apply what to me is a very restrictive metaphor to the fuller range of interactions that take place between interpreting and acting individuals in their daily lives. The lack of a specific definition or the existence of a too general definition of negotiation has led to just his. Couch (1980)notes this state of affairs in terms of Stauss' (1978) work:

> "He repeatedly tends to equate negotiation processes with interaction processes. However even the most cursory

> reading of this material will inform one that Strauss does not equate the term negotiation with interaction. Through usage, it becomes clear that negotiating activity refers to a particular form of interaction, but what is distinctive about that form is not specified."
>
> Couch 1980

I recognise that negotiations do take place in organisations as do the use of power and politics in the form of persuasion, appeals to authority, coersion and coersive threat. However, such concepts do not explain all interactions; a further metaphor is required to explain how agreement is reached to enter into joint action in situations of uncertainty and lack of tension.

9.9 Collective Improvisation

Remaining within the jazz metaphor I suggest that it is possible to view the interactions cited above as being a process of collective improvisation, or the product of some previous collective improvisation in the example of the rush order. In the earlier forms of jazz, improvisation was typically performed by a single soloist whilst the remainder of the band performed the role of the rhythm section.[12] In later forms of jazz collective improvisation was introduced.

Jazz performance with collective improvisation continues to be based on a theme or song. The soloist would then collectively improvise around the basic theme. Although variations on the process of collective improvisation exist, the basic principles of it are as follows: Having set the basic theme for the performance, a soloist (the leading soloist) would introduce his improvisation, this established a second order theme for the other soloist(s) to interpret and in turn improvise upon. The second soloist(s) might alter the course of the improvisation with their

interpretation. The leading soloist would then have to respond to this new interpretation, possible by adjusting the course of his improvisation by repeating his initial second order theme in an attempt to bring the other soloist(s) into line with his initial improvisation or by introducing yet another theme.

What is particularly significant about collective improvisation is that apart from the leading soloist's introduction the improvisors perform simultaneously. The soloist does not wait for the other to finish his improvisation before embarking on his own, but rather, the soloists compose and perform their improvisation whilst at the sametime listening to and interpreting or anticipating the course of the other soloist's improvisation. In this way there is a continual process of interpretation, improvisation and performance; a continual process of adjustment and readjustment, alignment and realignment or creation and recreation.

A collective improvisation therefore, is not a neat structured performance or interaction, with a gesture followed by a response followed by another gesture followed by another response, rather, gesture and response merge, such that they become almost indistinguishable. Through the continual process of alignment and adjustment a superordinate theme emerges, which all the soloists will agree upon and play in unison for the finalé. If the improvisation appears to be ending or to have exhausted its potential before the superordinate theme emerges, a soloist might introduce a more novel theme and thereby give additional impetus to the improvisation by opening up new channels for exploration. Alternatively, the collective improvisation could break down or result in cacophony. Cacophony, however is rare, for if the improvisation appears to be breaking down, a soloist will stress

and restress the initial theme of the song to allow the other musicians to readjust their performances. The initial theme would act as a basic referent to reallign the individual improvisations.

It is possible to interpret the interaction over the Lorry Drivers' Strike as a collective improvisation resulting in some superordinate course of action or agreement. Chris Davis introduced the basic theme, which was to decide on what course of action to adopt, in view of the strike and Pickets. Mike Shilling introduced a theme which permitted little or no improvisation. After a period of readjustment Martin Keyes introduced his theme. During this interaction the managers were not simply listening to each other but were engaging in minded behaviour, that is, they were constructing a response as soon as they caught the drift of the other person's line of argument and before it was fully expressed. The response which might simply be critical (Charlie Johnson's) or include an improvised or alternative theme (Cyril Jenkin's and subsequently Jim Brown's) would be constructed whilst the other person was expressing his suggestion. In some interactions the response may be introduced before the other person has completed his suggestion, this is reflected in the number of times the phrases "let me finish" or "I haven't finished yet" enters into the more heated discussions. On the other hand prematurely anticipating the drift of the suggestion might result in a misinterpretation of it, this again will be reflected in the number of times the phrases "you've got me wrong" or "that's not what I meant" are introduced. In such situations, which repeatedly occured at the Production Meetings, the initial performer would restate his suggestion in an attempt to clarify the misinterpretation, which was not always successful.

Half way through the interaction over the Lorry Drivers' Strike it

appeared that the only solution was to cut back production and build stocks. Thus the interaction was about to end. Chris Davis however, revitalised the interaction by introducing a new theme; that of the customers' position. This in turn led to further improvisation until Jim Brown "struck the right chord" which was the beginning of the superordinate theme or agreement. Chris Davis responded to this idea and developed the theme, Jim Brown and Peter Travers picked up on the theme and joined in the finale. Thus agreement was reached through collective improvisation, the outcome of the interaction was not predictable from the initial theme and therefore the managers were not negotiating for their vested interest, goals or desired outcome, rather they were collectively creating a novel innovative solution.

Not all interactions or meetings in the factory led to such a satisfactory solution, much of the managers criticisms of the Production Meetings (page 115) were directed at the lack of action resulting from these meetings. The meetings often resulted in cacophony with ill-feeling between the managers. The first meeting to set up a working party (page 34) is an example where the interaction virtually collapsed because of the hostility between Cyril Jenkins and David Wright. In this instance Chris Davis had to intervene and realign the course of the meeting. Another factor to determine the outcome of a collective improvisation is the skill of the performers. If Jim Brown had been absent from the meeting the solution might never have emerged. Jim Brown's introduction as Planner transformed the Planning Meeting which until then had failed to cope with the problems over production planning. Thus, the outcome of a collective improvisation is the product of those people involved and of that moment in time. Had Chris Davis been called away to a pressing engagement the interaction might have ended

with the decision to cut back production and build stock. Had other managers been present another course of action might have been adopted.

I am not suggesting that all interactions are collective improvisations. The initial progress meetings between the working party where Chris Davis subtly persuaded us or guided us into producing a production information format that would conform to the MADCAP programme (page 43). In these instances Chris Davis knew what he wanted and therefore the interactions were not improvisations as such. However the initial conception of MADCAP by Chris Davis and James Cook could well have been a process of improvisation, Chris Davis was simply repeating a successful course of action that he had experienced at RTG Cups (page 67). Although interactions might be characterised by negotiations, appeals to rules or authority, coersion, persuasion and threat the initial themes introduced by the parties will have at one time been created by a process of individual or collective improvisation.

9.10 Summary

Before embarking on a course of action an individual will attempt to find out what's going on. He will receive or gather information or data from a variety of sources about the event or situation and about the identity, actions and intentions of others involved in the event. Such "mere"information is then converted into meaningful information through a process of interpretation, whereby the individual assigns meaning to the various characteristics contained in the information and attempts to construct a definition of the situation. The meaning assigned, is derived through interaction; possible by the contemporary interaction if the situation is new or unique; or from previous interaction where

the situation is taken to be similar to previous situations. The individual may be viewed as making sense of the situation or as arranging his"mere"information or data in a meaningful manner (Weick 1979). Crucial to the arrangement is what he knows, or the information or data he has about the situation. This will include the actions and intentions of those others involved and the impact the situation is likely to have on himself, his function or on others. The individual therefore gathers data or information, interprets it and forms it into an"arrangement" which is meaningful to him.

Included in the process of arranging might be the selection of a course of action. The meaning of a situation or event may only become clear when the individual considers what he is going to do about it. In deciding on a course of action the individual will call into play themes or standards which he has had experience of before or which he has learnt from others and which appear to be appropriate to the contemporary situation. The themes called into play will be given a mock or trial run, either through minded behaviour, where the individual imagines the outcome or consequences, or through interaction whereby two or more individuals "talk the theme through." By doing this the theme is tested for its reasonableness or appropriateness to the given situation. The theme may be embellished or paraphrased to meet marginal differences from previous situations,or significantly altered or chorus phrased, such as it ceases to resemble the initial theme, to meet novel or new situations. The individuals ability to predict, map or plot the course of the chosen "course of action" is limited, therefore further improvisation may take place during and after the course of the action, should the consequences or outcome differ from those expected.

The individual therefore is an interpreter, improvisor and arranger. The arrangement as constructed makes two crucial statements. Firstly, it states how the individual sees or interprets the situation. Secondly, it states what the individual intends to do, what he is doing or what he has done.

During interaction, the reaching of agreement with others may be described as a process of collective improvisation, particularly when the situation or event under discussion is novel or unique and where the parties are uncertain of the course of action to adopt or the outcome they desire. In this way a novel or unique solution is created collectively by individuals floating a theme which others will improvise around, develop or reject and introduce another theme. In this way the interactants (or improvisers) adjust and readjust their performance until an improvised theme emerges which appeals or appears to be appropriate or reasonable within the context or consensus definition of the situation.

Alternatively, where there is disagreement, tension and the desire to achieve a particular outcome, the parties may engage in negotiation or use other strategies such as persuasion, coersion and appeals to authority to either achieve their own desired course of action or to compromise and come to terms with the other parties.

IMPLICATIONS FOR THE TRADITIONAL VIEW OF MANAGEMENT INFORMATION SYSTEMS: ASSUMPTIONS ABOUT CHOICE

The choice process within the traditional view of management information systems is based on the "economic rationality" model. Hayes Wolf and Cooper (1981) summarise this model based on the work of Von Neuman and Morgenstern (1947). The model implies that the decision maker

1) Can always make a decision when confronted with a range of alternatives;

2) Is able to rank all the alternatives facing him in order of preference in such a way that each alternative is either preferred, equivalent or inferior to any other;

3) Has a transitive preference system;

4) Selects that alternative which ranks highest in his ordering; and

5) Always makes the same decisions when confronted with the same set of alternatives.

Von Neuman and Morgenstern 1947
in Hayes Wolf and Cooper 1981

March (1976) has summarised this model by highlighting the key concepts which are; the pre-existence of purpose; consistency; and rationality. Swieringa (1980) considers how these "tenets of faith" form the underlying assumptions of management accounting and implicitly management informant systems with their emphasis firstly, on strategic planning, which is defined by Anthony and Deardon (1965) as "a process of deciding on the goals of the organisation". Secondly, on the information system's role in ensuring consistency between the goals of the various subsystems and individuals, and the goals of the organisation. Finally, the setting of targets and evaluation of performance common to most information systems, reinforces the notion

of a rational choice directed at achieving some goal or objective.

A number of authors have questioned these assumptions. Swieringa (1980) cites three models, which are the "behavioural theory of the firm" by Cyert and March (1963); the "garbage can" model by Cohen, March and Olsen (1972) and the "organising model" by Weick (1969-1979). Hayes Wolf and Cooper have produced a similar analysis. Argyris (1980)questions the concept of unilateral control on which most management information systems are based as having inner contradictions which impede organisational learning which he describes as the detection and correction of error.

If the perspective, that managers are interpreting, interacting, improvising individuals who are confronted with a multiplicity of problematic situations, some of which are defined as being familiar to previous situations and some of which are defined as being unfamiliar, the assumptions of choice underlying the traditional view of management information systems must again be questioned.

In a situation which is defined to be familiar, it might appear that a manager is acting in a rational and consistent manner and that his actions are directed at achieving some desired state of affairs or goal. The individual however is simply repeating a standard theme or acting out a scripted response. The individual is still acting according to his definition of the situation, however, a major component in that definition is the situation's familiarity.

The concepts of rationality, consistency and the pre-existence of purpose further come into question when an individual is confronted

with a situation that he defines as being unfamiliar. In the first instance the management information system with its pre-determined content, format and mode of presentation is only able to record recurrent familiar events. Therefore, the individual will not be presented with a range of alternatives to rank and to rationally select the highest ranking in the order. If the manager wishes additional information on an unfamiliar situation he will have to take recourse to the 'informal' system which has the richness of detail and flexibility to highlight the nuances and peculiarities of the unfamiliar situation. With the aid of the additional information the manager may be able to construct a fuller definition of the situation on which to select a course of action.

However, uncertainty, ambiguity and equivocality may still surround the course of action to be selected. In such a situation the manager will have to "act in order to find out what he is doing," Weick (1977). This would then question the pre-existence of purpose, and thus consistency and rationality. The proponents of the "goal paradigm" (Georgiou 1973) would argue, that even in such a situation, the action was intended to bring about some result or desired state of affairs by virtue of the fact that the individual would have thought in the future perfect tense. Weick (1969) argues that thinking in the future perfect tense is an action in which the individual thinks as if the act has already been accomplished. As he suggests, "it is the reflective glance, <u>not</u> the plan per se, that permits the act to be accomplished in an orderly way." In Weick's view, action precedes goals. Goals therefore, become a retrospective rationalisation of action. March (1976) reiterates this point by stating that "human choice is at least as much a process of discovering goals

as for acting on them." He further stresses that "a description that assumes that goals come first and action comes later is frequently radically wrong."

With this perspective,the information system should not be wholly concerned with setting goals or objectives and providing alternatives, for rational selection designed to achieve those goals It should be concerned with providing a facility through which managers may experiment and discover goals which may be inconsistent, and not rational within the traditional view of choice but might be perfectly "appropriate" or "intelligent" given the ambiguity, uncertainty and equivocality of the situation. Not only would this permit managers to deal with ambiguous, uncertain and equivocal situations but would permit them to question the taken-for-granted way of doing things.

As seen in the text March (1976) and subsequently Hayes Wolf and Cooper (1981) advocate that the imperative towards rationality and consistency should be suspended to encourage, experimental playful action which may generate novel solutions to familiar situations and solutions to unfamiliar situations. They advocated that goals should be treated as hypothesis; intuition should be treated as real; memory should be treated as an enemy; and experience should be treated as theory. I would suggest that such behaviour existed in the Avon factory. It's existence, however, was not to be found in the formal, official facade of the organisation, (the focus of much research) but rather, it was to be found in the informal organisation with its so-called informal processes (including the process of informing) beneath the official facade.

In unfamiliar or ambiguous situations the managers attempted to gather

additional information from other sources (page 246); often this was contradictory, creating confusion or doubt about the nature or reality of the situation (page 248), thus achieving the semi-confusing state desired by Hedberg and Jonsson (1978). In such a state of confusion, the manager would be uncertain of what course of action to adopt. If after seeking advice, uncertainty still persisted, the manager or managers would speculate about the likely consequences of suggested courses of action (thereby formulating hypotheses rather than goals). In the process of speculation "intuition" or imagination would play a real role. Ideas would be floated, imagined or talked through, commented on, criticised, accepted, modified or rejected (pages 284 - 286) These ideas or themes were often treated seriously by the others involved, on the other hand they were often treated as trivial and dismissed.

Hypocrisy would exist where in developing a novel solution or course of action the manager would state their intentions and their desired outcomes. However, because of unforseen circumstances which occured during the course of the action, adjustments would take place during the action and thus create a discrepancy between action and the initially stated intention within the context of the particular situation. Hypocrisy, if it could be described as such, was not unduly problematic to the middle managers themselves, for they were often in constant contact with each other and would discuss and agree upon changes in the course of the action. The managers thus kept each other "in the picture." Such hypocrisy however was problematic to senior management, in that, they were often not informed of any changes, and thus continued to expect the outcome initially agreed upon, (page 118) where Cyril Jenkins was not informed of the state of

Rotoform 2; he assumed that they were achieving half through put, whereas it had stopped completely.

Certain managers treated memory as an enemy. By memory I mean the collective memory of the organisation, made up of the taken-for-granted habitual procedures and practices. On page 146 Jim Brown noted the fallacies about what could and could not be done. In order to overcome these fallacies he gathered additional information from other sources and viewed the problem from a different perspective, (treating experience as a theory) and in so doing he questioned the taken-for-granted ways of doing things. Although managers did experiment with new solutions to existing problems (Jim Brown's planning and planned maintenances) they were often prone to rely on their memory and taken-for-granted habitual perspectives. However, if treating memory as an enemy and treating experience as a theory is to be encouraged, attention should be directed towards the existing processes that facilitate such behaviour, which occurs in the 'informal' processes of informing and selection of a course of action.

The'informal' process of informing in addition conforms to the prescriptions by Hayes Wolf and Cooper (1981). In that the 'informal' information was not used to evaluate performance, it was often ambiguous, of a highly complex nature, of low formalization and was decentralized; it further provided information of a highly specific and detailed nature which could be interpreted in a number of ways, and thus had multiple meaning.

Finally the 'informal' system conformed to some of Weick's (1977b) prescriptions in that it was garrulous; managers continually talked

to each other to "find out what the hell was going on." It was clumsy; although there were well tried routes, information was gleaned from many surprising sources, for example chats at lunch and casual conversations. It was, hypocritical; as seen above. It was octopoid, (the notion of loosly coupled systems will be discussed in the following chapter).

The typical management information system thus fails to provide the type of information that managers require in dealing with unfamiliar situations. The typical management information system concentrates on recurrent easily measurable transactions and as noted by Wilensky (1967);

> ....analysis of the easy-to-measure variables (casualties suffered by the VietCong and South Vietnamese) was driving out hard-to-measure variables and long-run costs (the nature of popular support for a South Vietnames government, the effect of the war on the Western Alliance and on domestic civility, the effect of bombing and the will to resist) kill-ratious and the like represent a touch of spurious certainty in a highly uncertain world....
>
> Wilensky 1967

And thus as Argyris states:

> "tend to produce valid information for the unimportant and programmed problems and invalid information for the important and non-programmed problems."
>
> Argyris 1971

It must be further noted that information was not gathered simply for making choices. Information was required by the manager to construct a picture or make sense of what was going on in the organisation

and thus make sense of the organisation itself. Once again the type of information provided by the formal system was not suitable for this purpose.

NOTES

1. Information processes and decision making have been traditionally linked in the organisational theory and management information literature. The former discipline includes Simon (1969), Cyret and March (1963), Galbraith (1977), Connoly (1977) and Knight and McDaniels (1979). The latter includes Anthony (1965), Lawler and Rhode (1976) and Murdick(1980).

2. Joint action will be more fully discussed in the following chapter.

3. Ambiguity surrounding the process of deciding on a course of action is recognised by Cyret and March (1963); Cohen and March (1974); March and Olsen (1976) and Weick (1969, 1977, 1979). Hayes Wolf and Cooper (1981) utilize the concept of ambiguity to question the traditional role of the budgetary control process.

4. March and Olsen (1972) depicting the ambiguity in organisations by referring to them as "garbage cans" or "organised anarchies."

5. Arrangement will be discussed in the following chapter.

6. Although I have great sympathy with the concepts of the technology of foolishness and playfulness I have two major reservations. Firstly, the metaphor fails to incorporate or describe how the process by which action is derived through playfulness, may be communicated to or shared with others, how it may subsequently be incorporated into the individuals own and others repertoire and how such actions, which imply change and modification affect and are affected by the existant organisational order or structure. Playfulness must be recognised to involve more than a single individual, it takes place within some organisational context or order. Implicit in the term "organisational anarchy", used by March (1972) is the concept of some order or organising. The relationship between individual playfulness and that order is not made explicit.

   Secondly I have reservations about the terms "technology of foolishness" and "playfulness." Whereas I recognise that the authors do not treat these terms trivially and emphasise the notion of creativity, adaptability, innovation, experimentation and flexibility, I would suggest that it might prove difficult to encourage managers to internalise these terms, for they also imply childishness, ignorance, frivolity, lack of understanding and so forth. Managers take themselves and their activities seriously, and may interpret such terms as foolishness and playfulness as missing the serious import of their daily lives.

7. The term creativity is subject to some definitional confusion. Creativity is not simply equated with novelty or innovation although creativity necessarily includes something new or novel. Stein (1975) defines creativity as a

   > "process that results in a novel product or idea which is accepted as useful, tenable or satisfying by a significant group of others."
   >
   > Stein 1975

For the jazz musician the improvisation firstly had to be novel but also to be accepted as useful, tenable and above all satisfying by a significant group of others. The others were the audience, critics and above all other knowledgable musicians.

8. Stein (1974) cites the work of Lacklen and Harmon (1958) and Ghiselin (1963) who suggest there are degrees of creativity. Ghiselin distinguishes between creative action of the "high sort" which he says "alters the universe of meaning itself, by introducing into it some new element of meaning or some new order of significance." Creative action of the "lower sort" "gives further development to an established body of meaning through initiating some advance in its use."

9. Ramos (1978), describes such a topic change as a process of modulation.

10. Social order, or organisational order will be discussed in the following chapter.

11. The relationship between the individual and the band will be discussed in the following chapter.

CHAPTER 10

IMPROVISATION ARRANGEMENT AND ORGANISATIONAL ORDER

In this chapter I recognise that individual behaviour and interactions do not take place within a vacuum but occur within some organisational context or order. In chapter 8,I introduced the concept of Mead's I and ME which explained the duality between the individual and society and concluded that individuals and society are both determiners and determined, it is this theme I shall now develop.

10.1 Interactionists'View of Social Order

Interactionists are essentially anti-deterministic, they seek a balance between completely free-willed actors, and actors whose actions are fairly strictly determined or constrained (Strauss 1978). Thus, on the one hand we have the portrait of a social order or structure which constrains the activities of the individual actors; on the other hand, individual actors may construct new novel forms of behaviour which will impinge on, and possibly change some aspect of the social order or structure. The question posed is: How is social order created and maintained in the light of continual change and modification? Mead (1936) posed the question thus:

> "How can you bring those changes about in an orderly fashion and yet preserve order? To bring about change is seemingly to destroy the given order, yet society does and must change. That is the problem, to incorporate the method of change into the order of Society itself."
>
> Mead 1934

The interactionists would argue that social or organisational order

and structure consists of patterns of interaction which entail the fitting together of separate lines of action. Organisational reality is located nowhere but in these patterns of interaction. I would suggest that the process of informing plays an integral part in these patterns of interaction whereby separate lines of action are fitted together, and organisational reality produced, reproduced and sustained. Furthermore I would suggest that the process of informing influences, and is influenced by, the organisational order or structure as created, modified or sustained by these patterns of interaction.

The emphasis of the analysis thus far, has been towards an explanation of individual behaviour, interactions and the process of informing, it is now necessary to provide a metaphor or model that will include, individual behaviour, interactions, the process of informing and organisational order and structure.

10.2 Blumer: Society as Symbolic Interaction

In adopting a symbolic interactionist perspective there is a very real tendency to concentrate on individual behaviour as symbolic interaction and gloss over society as symbolic interaction. Blumer (1962) states that most writers tend towards this state of affairs.

> "A view of society as symbolic interaction has been followed more than it has been formulated. Partial, usually fragmentary statements of it are to be found in the writings of a number of eminent scholars...None of these scholars, in my judgement, has presented a systematic statement of the nature of group life from the standpoint of symbolic interaction."
>
> Blumer 1962

Blumer attempts to put the position of symbolic interaction and society in "better perspective." In doing so he draws heavily on the work of

Mead. The following is a very brief summary of this perspective.

Firstly, human society is to be seen as consisting of acting people, and the life of the society is to be seen as consisting of their actions. Secondly, any particular action is formed in the light of the situation in which it takes place. The action is formed or constructed by interpreting the situation. Such interpretative behaviour may take place in the individual guiding his own action, in a collectivity of individuals acting in concert or in "agents acting on behalf of a group or organisation.

Thirdly, a distinction is made between common recurrent events, encountered by people in a given society which are defined or structured by them in some way, and situations not previously encountered by the people and where there are no structured or ready made definitions.

In dealing with common recurrent events the individuals,through previous interaction,develop and acquire common understandings or definitions of how to act in this or that situation. These common definitions enable people to act alike. In a unique situation, no such common definition or understanding may exist; in this event, their lines of action may not fit together readily and collective action will be Hocked. Interpretations then have to be developed and effective accommodation of the participants to one another has to be worked out.[1]

This perspective of society differs from the more deterministic views along two major lines. Firstly, from the standpoint of symbolic

interaction the organisation of a human society is the framework inside of which social action takes place, and is not the determinant of that action. The social organisation enters into action only to the extent to which it shapes situations in which people act, and to the extent to which it supplies fixed sets of symbols which people use in interpreting their situations.[2]

Secondly, organisations and changes in them, are the product of the activity of acting units and not forces which leave such acting units out of account. Thus any social change, since it involves change in human action, is necessarily mediated by interpretation on the part of the people caught up in the change - the change appears in the form of new situations in which people have to construct new forms of actions.

The question, however, still remains: How are these patterns of interaction formed? What are the mechanisms employed during successive interactions that enable acting individuals to act alike? How are interpretations developed and how do the individuals accommodate each other? Blumer has provided us with a framework for theorising about organisations and society, and although he does point to some methodological implications of this perspective, I feel they are inadequate guidance for researchers to study or view social orders, their development and change. At best the ideas encompassed in this brief account may enable us to glimpse organisational or social order but not to understand it. A more detailed perspective is provided by the negotiated order theorists.

10.3 Organisation as a Negotiated Order

Strauss et al (1963) depict organisational order or structure thus:

> "Something at which members of any society, and organisation must work for the shared agreements, the binding contracts - which constitute the grounds for an expectable, non-surprising, taken-for-granted, even ruled orderliness - are not binding and shared for all time. Contracts, understandings, agreements, rules - all have appended to them a temporal clause ...Review is called for, whether the outcome of review be rejection or renewal or revision or what not. In short, the basis of concerted action (social order) must be reconstituted continually or, as marked above, "worked at."
>
> Strauss et al 1963

Thus all shared understandings lack permanence and must be continually reaffirmed or re-negotiated; rules, procedures, order and structure are not automatic occurrences but rather must be worked at by the repeated acts of the participants (Mangham 1979). For the negotiated order theorists, behaviour in organisations is marked by an ongoing process of negotiation, one in which working agreements are created, consolidated or overturned as members interact. Thus social order is a negotiated order.

In order to stress the relationship between the daily ongoing negotiations (interactions) and the more permanent, even ruled structure, Strauss (1978) introduced the concept of the 'hegotiation context"and the"structural context." The structural context derives from the larger transcending features of the social world within which the negotiation takes place, certain aspects of the world will be salient for the negotiation in so far as they impinge on them. The negotiation context operates within the structural context and mediates those features of the structural context which actually enter into and condition the course of the negotiation itself. Strauss(1978) argues that the structural context is larger, more encompassing than the negotiation context but the lines of impact may run either way.

> "Changes in the (structural context) may impact on the (negotiation context) and vice versa. Outcome of the negotiation itself, can contribute to changes in negotiation contexts relevant to future negotiations. They are less likely to affect the structural context (structural properties), except as they are repeated or combined with other negotiations and with other modes of action and so perhaps have some cumulative impact."
>
> Strauss 1978

Although individual negotiations are likely to have only minimal impact on the larger structural properties, these structural properties are themselves a product of successive past negotiations. Thus, the structural context impinges on the negotiation context which in turn impinges on the individual negotiation, in turn the individual negotiation may impinge on the negotiation context which in turn, to a lesser degree, may impinge on the structural context. Strauss (1978) concludes that:

> "Studies of complex relationships existing between the more stable elements of organisational order and the more fleeting working arrangements may profit by examining the former as if they were sometimes a background against which the latter were being evolved in the foreground - and sometimes the reverse is obtained."
>
> Strauss 1978

Major criticims have been directed towards this view of negotiated order. Much of the controversy is directed towards the ambiguity surrounding the terms negotiation context and structural context. This in turn leads to further difficulties in operationalising Strauss' (1978) paradigm for the research of negotiations and negotiated order. This requires the researcher to identify and describe the salient characteristics of the structural context, the negotiation context, the

negotiations themselves and the lines of impact between them. Preston (1980) has noted that;

> "Merely to list a few actual or potential external conditions is not adequate to claim that one has shown how interaction and large scale social conditions are related. Even to argue that somehow such external social conditions are really incorporated into the negotiator's awareness begs the critical gap between interaction and large scale structure. Solutions to this problem are elusive."
>
> Preston 1980

My own criticism is that the proposition that social order, at whatever societal or organisational level, is in fact, a negotiated order, rests on there being negotiations, and that these negotiations are the primary type of interaction that affect the social or organisational order. As I have noted in the previous chapter, a negotiation is a specific type of interaction, with particular characteristics. If the predominant type of interaction cannot be defined as a negotiation, then I would suggest that it is not warrantable to generalise the concept of negotiated order to the whole of society or to all organisations. The study of negotiations is a valid and worthy subject and in given situations the social order may be conceived of as a negotiated order. Strauss' paradigm is expressly designed for the study of negotiations and not interactions in general. Thus if a researcher wishes to study negotiations, he must carefully select the setting in which to conduct his research, which most negotiated order theorists have indeed done. The study of negotiations is required to support the premise that social order is a negotiated order. For a person whose name is linked with the "Discovery of Grounded Theory" such a rigid, almost deterministic approach to research is indeed surprising.

10.4 Weick: Loosely Coupled Sub-Assemblies (Systems)

Preston (1980) notes that solutions to the problem of the critical gap between interaction and large scale structures are elusive, he further notes that researchers may possibly be asking the question in the wrong manner. Weick (1974) based on the ideas of Merton (1957) argues for the development of middle range, as opposed to grand theories of social systems and offers the concept of loosely coupled sub-assemblies or systems. Weick (1979) states:

> "If organisations are loosely coupled then relatively small units - such as double interacts, dyads and triads - become eminently sensible as places to understand the major workings of organisations."
>
> Weick 1979

The concept of loose coupling (which Weick borrows from Glassman (1973) and March and Olsen (1975)) conveys the image that coupled events are responsive, but that each event also preserves its own identity and some evidence of its physical and logical separateness. The image is that events or systems are somehow attached but that each retains some identity and separateness. Their attachment may be circumscribed, infrequent, weak and its mutual affects unimportant and/or slow to respond. Loose coupling carries connotations of impermanance, dissolvability and tacitness all of which are potentially crucial properties of the "glue" that holds organisations together. Finally, the concept of couplings suggest the idea of building blocks that can be grafted on to an organisation or severed with relatively little disturbance to either the blocks or the organisation. Borrowing from Simon (1969) Weick portrays complex structures or systems as being decomposable into stable sub-assemblies and that these are the crucial elements

in any organisation (Weick 1976).

The process of enactment or interaction, which Weick (1979) prefers to describe as a double interact, gives form and structure to these loosely coupled systems. These units are connected by further couplings which amplify the small actions within what is taken to be the "organisation." Causal loops are then formed which are reflected in social or organisational influences and in turn impinge upon the process of enactment, interaction or double interacts. Thus Weick (1979) concludes:

> "It is the combination of loose couplings, plus causal loops that amplify the consequences of small actions, plus social influence in double interacts, that has convinced me that a minimalist approach to understanding organisation is a productive way to start."
>
> Weick 1979

Schutz (1964) gives credence to this minimalist perspective when he depicts an individual's view of the world as being centred around himself. The social world with the "alter egos" (which includes institutions of various kinds) in it are arranged around the self as a centre in various degress of intimacy and anonymity. The individual acts meaningfully towards those who he has an intimate relationship with or knowledge of, and addresses himself towards the "anonymous others" or institutions in a more vague or less meaningful manner. Thus,in understanding the process of action and interaction it is important to understand the scale of awareness of the acting and interacting individuals. Glaser and Strauss (1964) depict this as the "awareness context" of the individual.

An awareness context is the total combination of what each interactant

in a situation knows about the identity of the other (Glaser and Strauss 1964). they further describe the awareness context as:

> "the total combination of what specific people, groups organisations, communities know about specific issues."
>
> Glaser and Strauss 1964

These definitions of awareness contexts provide a useful analytical tool. An individual's actions can be seen to take place within the context of what he knows about the identity and intentions of himself and others and his information about the specific issue or situation in hand. Awareness contexts can then be framed in terms of information, this has been recognised by Maines (1977), although only in terms of identity.

> "The type of context...is determined by the type of information one person has regarding the other."
>
> Maines 1977

Cyert and March (1963) Mintzberg (1973, 1975.) note that an individual has only limited capacity to attend to all the characteristics of particular situations and have limited capacity to retain and process data, therefore an awareness context is limited to those factors that directly impinge on himself and his immediate surroundings. Awareness of wider more "organisational" implications appear vague and ill-defined to the individual. If we are to study organisations from the view point of interacting individuals it might be applicable to view them as a series of overlapping awareness contexts or as loosely coupled sub-assemblies. I would further suggest that the scale of awareness contexts may differ from individual to individual. A shop floor worker may have

a more compact awareness context than the managing director who looks at the wider "organisational" implications or the international affairs specialist who has a global view. However, because of the limited capacity of human beings to take account of, retain and process information it might be deduced that, the wider one's awareness context is, the less specific detail it contains.

10.5 Improvisation and Arrangement

How can this view of organisations as awareness contexts or loosely coupled sub-assemblies be incorporated into the jazz metaphor with its emphasis on individual and collective improvisation?

To recap; the basic interactionist perspective of organisational order or structure is as follows. It is a process oriented perspective stressing the continuous emergence of organisational arrangements out of the ongoing interactions of the participants. These organisational arrangements are continuously being formed, adjusted, modified or sustained through the day-to-day encounters of participants. The arrangements reached through interaction (read collective improvisation) are seldom stable and often represent merely surface agreements which can mean different things to different people (Benson 1977). Until now I have considered improvisation from the perspective of the soloist or soloists; however, it must be recognised that these individual or collective improvisations are performed within the context of a band or ensemble.

Cameron (1954) identifies two things that are simultaneously required of the jazz musician:

> "he must subordinate and integrate his musical personality, as expressed through his instrument, into the general group, and he must do this with no score or conductor to guide him. On the other hand, as a soloist, he must produce startlingly distinctive sound patterns which are better, if possible, than those played by any other member of the group. How is this done?"
>
> Cameron 1954

To answer Cameron we may paraphrase Mangham (1979):

> "The band does not determine the jazzman's music; nor does the jazzman determine the band. The band and the jazzman are both determined and determiners."

More specifically it is necessary to examine two seemingly contradictory concepts which are crucial to jazz, and as I shall argue to all forms of social interaction, social order and social change; these are improvisation and arrangement. It might appear contradictory to discuss improvisation and arrangement as linked concepts. For it may logically follow that the more arrangement, the less improvisation. However, in all forms of jazz, improvisation has run hand-in-hand with arrangements. The jazz musician does not see an arrangement as an inhibition of freedom to improvise but as an aid. The possibilities of free improvisation are enlarged when the soloist knows what the musician playing with him are doing. With an arrangement he knows.

In a jazz combo (ensemble) once the theme or tune is selected, key and tempo are established in an introduction which is played typically by piano. Except by pre-arrangement the key and tempo are set for the duration of the number. The rhythm provides a basic referent which all

are obliged to respect (Cameron 1954).

An arrangement is an agreement in advance to perform or play within a framework. The arrangement includes the basic theme or tune, the key, mood, tempo, and a schedule outlining the timing of the solos and identifying the soloists. The degree of arrangement varied for each jazz era. The big band swing jazz required considerable arrangement whereas the free or avant garde jazz has little or no arrangement.

In the small combos arrangements were not written, they were "head arrangements." Such arrangements are termed "Folkways" by Cameron (1954) which he describes as being informally established and are sharply distinct from the formally "arranged" music of the dance or big swing bands. The simple 'head arrangements" were ideal for the small combos but were impractical for large units unless the musicians were prepared to spend an enormous amount of time at rehearsals. To overcome the impracticalities of the head arrangements, arrangers, usually the band leader, would provide a plot, expressed in musical notation outlining the key, tempo and the chords to be used by the soloists, and a schedule of when the solos were to be played. Good arrangements became vitally important to a band's success, improvisation was minimised and even a band's star soloist had his work restricted.[3]

As a reaction against this restriction, small groups of musicians formed into jam sessions where they could extend themselves and experiment with novel improvisations. However, even in these jam sessions there were arrangements; prior to the number the musicians would discuss

the arrangement which in itself would be very limited. Beyond this there were no clear cut rules to guide the performer. The musician must recognise the pattern that unfolds, from what he hears of those playing around him. He must select a part in this pattern appropriate to the occasion, his instrument and his personal abilities and liabilities.

An arrangement in jazz is temporary, it is applicable to the contemporary performance and may be adjusted or rearranged for subsequent performances. An arrangement is distinct from an orchestrated composition, in that, it constitutes a basic plot or chart rather than a fully notated or composed through score. It is this incomplete nature that permits the soloist to improvise and yet maintain harmony and order within the band. Thus,we can describe a jazz solo as being improvisation on a theme within the framework of an arrangement. The improvisation is thus constrained by at least two factors, firstly by the theme and secondly by the arrangement. Other factors also constrain the jazzman, namely his own technical ability, the properties of the instrument, and more nebulous concepts such as his inspiration and creativity.

I would suggest that in the above description of arrangements in jazz are a number of useful concepts which may enhance our understanding of joint or concerted action and social order. For I would argue that much , if not all, our social life is characterised by arrangements, or by entering into arrangements with others.

10.6 Shared Arrangements

In the conclusion of the last chapter I described the process whereby an individual (or individuals) interprets data to arrive at a definition of a situation and calls into play a theme or course of action,

which may be repeated or improvised around, as the formation of a sensible arrangement. If the chosen course of action requires joint action, the arrangement will have to be shared with the others involved. Individuals acting in concert in effect jointly agree upon and enter into an arrangement. A shared arrangement includes a shared definition of the situation and a shared theme or course of action, which in turn includes the acts or parts required to be performed by the individuals involved. As noted with the individual's sensible arrangement, ambiguity and uncertainty may surround the definition of the situation and the theme or course of action. This possible ambiguity and uncertainty might be amplified in the case of a shared arrangement. The emphasis must be placed on the concept that it is an arrangement, it is formed by a definition of the situation rather than the definition and a theme or course of action rather than the theme or course of action. Given this possible ambiguity, a shared arrangement may mean different things to each of the people involved. However, even with the possibility of ambiguity or misinterpretation, a shared arrangement permits an individual to act, and whilst acting, to know, even if only roughly, what the other parties are doing.

With this view, a shared arrangement may be likened to a loose coupling between a definition of a situation and a theme or course of action, and between the interacting individuals themselves. Alternatively or in addition, it may be likened to an awareness context in that it is formed on the basis of the information the parties have of each others' identity, intentions and of the situation or issue in hand, that is, what each individual knows.

Thus, individual or collective improvisation, or behaviour based on

previous improvisations, is constrained by the definition of the situation, the theme called into play and by the framework or context of the arrangement entered into with others. As with the jazz musicians, an individual's abilities and liabilities will further constrain his actions.

It is possible to view shared arrangements as differing around a number of salient characteristics.

10.7 Degree of Detail or Specification

An arrangement may be highly detailed with the parts to be performed by the various parties explicitly specified. On the other hand, an arrangement may contain little detail and little specification. A leasing agreement or a legal contract may be defined as a highly detailed arrangement, with its parts tightly specified. One party will supply some goods, the other party will make certain payments, the amount and timing of which will be specified in the documented agreement and signed by each party. On the other hand a chance meeting with an old friend may be defined as an arrangement with little detailed specification. Although the opening gestures may be predictable the course of the interaction, the topics discussed, will be largely unknown at the outset but will emerge during the interaction.

Shared arrangements formed to take action on a unique or unfamiliar situation are likely to contain little detail and the parts to be performed may only emerge during the course of the joint action. These may possibly be adjusted with reflection, thus providing more detail and specification for future arrangement in a similar situation. In effect the parties may arrange to collectively improvise during and

after the interaction.

Highly detailed and specified arrangements limit the amount of improvisation that can take place during the course of the action itself; however, the arrangement agreed on in advance may be the product of collective improvisation. On the other hand, loosely detailed or loosely specified arrangements may provide room for high degrees of improvisation during and after the enactment. Furthermore, highly detailed arrangements permit the parties to accurately judge the performance of each other; deviance from the arrangement may be noted and judged to be illegitimate. In some arrangements such as a legal agreement, deviation from the specified parts may be subject to some penal action. In loosely specified arrangements,where improvisation is likely, accurately judging the performance of each other may not be feasible. Performance will then have to be assessed in terms of its reasonableness or appropriateness in the context of the ambiguity of the situation.

Within the factory the recording and processing of production data and bonus payments were highly detailed and specified arrangements. Improvisation was frowned upon, and manipulation of production data and bonus payments was judged as a form of fraud or embezzlement. Manipulation was known to occur (pages 79-80); however it was often difficult to prove. Most arrangements over novel, ambiguous events, notably the incident over the black specks in the extruded sheet, were loosely specified and with little detail. Midway between these two extremes it is possible to view the Production Meeting as a partially specified arrangement. The time, place and make-up of the meeting was specified and although there was no formal agenda the topic areas were often

pre-arranged by Cyril Jenkins. However, the Production Meetings differed markedly from each other. Different people raised and commented on different issues. On some occasions the discussions were peaceful and constructive; on other occasions they were heated and led nowhere. The topics covered were at times important and of interest; at other times they were defined as being trivial and meaningless. Furthermore the purpose of the meetings were defined differently by Cyril Jenkins, who regarded them as a means of "keeping abreast of events," whereas the other managers defined them as a "waste of time" or as a "talking shop" with little real action being taken.

10.8 Frequency or Repetition of Arrangements

Individuals may enter into similar arrangements frequently or the arrangements may be a "one-off" or "special arrangement" to meet a particularly unique or rare event or situation. As an arrangement is repeated and through the process of subsequent improvisations, adjustments or alignments, an arrangement may become so familiar to the parties that it is taken-for-granted. Since arrangements usually produce certain results, a person viewed as abiding by an arrangement will be presumed to be intending the outcome typically associated with that arrangement. Thus if a manager, confronted by a familiar recurrent situation, and one in which he has jointly tackled with another or other managers, he may take it for granted that the other managers will perform their parts in the contemporary arrangement, and will thereby be able to predict the outcome or consequences of the arrangement. I would suggest that such taken-for-granted arrangements make for a more or less patterned predictable, non-surprising, even ruled orderliness of the social order. The informant networks which will subsequently described as an arrangement to inform were of this order.

If an arrangement is "one-off" or unique the managers may be uncertain of their own and others' parts and might be unable to predict the outcome of the joint action. When such cases occurred in the factory the managers carefully monitored the outcome and consequences of their own and others' actions in order to be able to make necessary adjustments. Such instances were reflected in the number of times managers requested to be "kept in the picture" or asked to be "filled in on the details".

It follows that the more taken-for-granted arrangements whilst permitting an orderly, non-surprising environment may also restrict the amount of improvisation that can take place. However, these arrangements were likely to have been formed through a process of improvisation. Not all improvisation however, was eradicated, for taken-for-granted arrangements need not be highly specified or detailed, in fact in the factory the reverse was often the case. Whereas the informant networks were more or less taken for granted arrangements, the parts to be played by the individuals were not detailed or specified. Charlie Johnson could inform Jim Brown by personally contacting him in his office or by phone; alternatively he could send one of his supervisors or send a memo, although the latter rarely occurred. Thus the arrangement to inform was honoured and the desired outcome achieved; however, the means by which it was accomplished or by which the arrangement was carried out was subject to some improvisation. This improvisation would be described as paraphrasing.

If, however, an entirely new mode of behaviour or course of action was introduced (chorus-phrasing), such that the typical outcome was not achieved, the initial taken-for-granted arrangement might be rearranged. Alternatively the other parties might attempt to force or persuade the

deviant actor back into line. The introduction of Jim Brown as Planner significantly altered the existing, taken-for-granted planning arrangement. Until Jim's appointment what planning there was was conducted in a rather ad hoc manner by Peter Travers and the Departmental Production Managers. With Jim Brown's appointment he introduced a formalised plan which was posted on his planning board. At first the managers, Charlie Johnson and Mike Shilling, were sceptical and continued in their "old die-hard ways." However, when Jim Brown managed to create longer lead times on orders from the customers and reduced the number of rush orders, which were so disruptive to production, Charlie Johnson and then Mike Shilling began to accept the new arrangement. On the other hand attempts to improve the finished goods stock control and waste control proved a failure and the people involved returned to their old, haphazard arrangement as soon as possible.

Examples of taken-for-granted arrangements are: On page 136 where Charlie Johnson explained how he could rely on his supervisors to perform certain decision-making functions and to inform him of them at a later date. On page 137 where Robin Slater described how the supervisors remained behind at the end of each shift to pass on a written and verbal handover report to the incoming supervisor. This arrangement further required the outgoing supervisor to have a cup of tea ready for his colleague. On page 158 Jim Brown described how he received a copy of the material requisition slips from the warehouseman and arranged to meet with him prior to the production meeting on the Monday morning.

10.9 The Nature of the Formation of Arrangements

I have noted that arrangements are formed through the process of collective improvisation or have their roots in some past improvisation. The design of the MADCAP information system contained little improvisation in that Chris Davis carefully and deliberately coerced the working party into preparing a document that suited his requirements and conformed to the MADCAP programme (page 67). Thus although the initial design of MADCAP may have been the product of improvisation the contemporary arrangement, that is,the use of MADCAP in RTG Plastics, could be viewed as an imposed arrangement. An arrangement may be imposed in a number of ways; it might be imposed through subtle coercion as above or it might be imposed by directive by some person or persons with the authority to do so.

The design and implementation of MADCAP only involved the senior managers, Chris Davis, Cyril Jenkins and David Wright. MADCAP which could be described as an arrangement to inform was then imposed by directive on to the middle managers. All previous information that was officially supplied was stopped and after some delay MADCAP appeared. The middle managers were not involved in the design process, yet were expected to ensure that the correct data was provided from the time sheets and production record charts and were expected to use MADCAP as a source of information. Arrangements imposed through persuasion, coercion or directive contain little or no improvisation, in that the "powerful" party has a definite idea of the arrangement he wishes to achieve and will use various strategies to ensure that his desired outcome is achieved.

The term arrangement in music has a more precise meaning, which until

now has not been fully expressed. A musical arrangement entails the transposing of an existing musical composition, written for a particular instrument or group of instruments, into a composition suitable for another instrument or other instruments. An arrangement is not simply a process of transcription, for a series of notes played by a saxophone may sound ridiculous when performed by a trumpet. Thus, the arranger must interpret the existing composition within the new instrument's properties, or characteristics. I would suggest that as individuals may assign meaning, interpret and act towards a single situation or object in a variety of different ways, an imposed arrangement, to be successful, must explicitly recognise the possibility of idiosyncratic behaviour. MADCAP, which fulfilled the requirements of Chris Davis and which he regarded as a reasonable arrangement within the context of his position and function was not a particularly reasonable arrangement within the context of the middle managers' position and functions. Thus an imposed arrangement may misinterpret or ignore the characteristics or idosyncratic behaviour of those others involved in the arrangement.

In a musical performance, the conductor or band leader may ensure that the imposed arrangement is performed accurately. However, senior management do not enjoy the same intimacy with their subordinates and thus, ensuring the accurate performance of an imposed arrangement might not be feasible. The middle managers, in defining an imposed arrangement to be unreasonable or inappropriate, might develop their own arrangements and thereby operate outside the formal or imposed arrangement. In much the same way, the jazz musicians formed "jam sessions" to break away from restrictions of the big swing band arrangements. The middle managers developed their own processes of

informing and operated outside the confines of the MADCAP system.

In particular situations an arrangement may be formed through a process of negotiation. Arrangements over working conditions and facilities between senior management and the workforce were of this nature. In such situations, there was tension and disagreement between the parties and the arrangement formed was detailed and highly specific. An example of an arrangement formed through negotiation, was where a machine was moved from beside the granulator, where it was excessively hot, to a cooler position. Cyril Jenkins was reluctant to move the machine because of the costs and disruption; however, it was agreed to do so when an undertaking to improve productivity was reached.

10.10 Arrangements as Structural Units

In chapter 7 I have noted that individuals formed general definitions of each other based on successive involvement with (or entering into arrangement with) others or through hearsay from other third parties. The general definition formed would influence a manager's interpretation of the other's subsequent actions and the manner in which he acted towards that individual. If the definition that the managers held of each other were complementary they might develop or form into more or less permanent social or working arrangements, that may be circumscribed or identified as structural units within the context of the overall organisation.

Whereas these structural units may be identified in terms of their physical or logical separateness, as with Weick's concept of loosely coupled systems or sub-assemblies, they were attached to one another by further loose couplings. The structural units or more or less

permanent social or working arrangements formed a web, with a single individual being a member of a number of loosely coupled units. In this way they provided the "glue" (Weick 1976) that held the organisation together and gave it the logical appearance of form and structure.

The structural units were formed by entering into successive arrangements with others and through the definition held of each other by the parties involved in those arrangements. Thus the structural units reflected the nature of the arrangements on which they were formed and the definition held of each other. The structural units in turn affected or impinged upon the subsequent arrangements entered into by the parties involved. It is useful to view these structural units in terms of their relative strength, Weick (1976), or in terms of the degree of intimacy between the parties involved. For Circourel (1970) suggests:

> "that the more spontaneous or intimate the relationship, and hence the interaction, the less "institutionalised" the behaviour of each. Thus, strangers will respond to more impersonal or "safe" definitions of the situation in interacting with one another. Close friends would be more likely to innovate before each other during social interaction, or they would be less constrained by third parties."
>
> Circourel 1970

The structural unit composed of Cyril Jenkins and his Departmental Production Managers, Charlie Johnson and Mike Shilling reflected the nature of the arrangements they entered into with each other and the definition they held of each other. Both Charlie Johnson and Mike Shilling were critical of Cyril Jenkins; Mike described his appointment as a disaster and Charlie thought of him as an inexperienced academic. Furthermore, both were at pains to suggest that they did not voluntarily pass information on to Chris Jenkins but rather only did so on request

(pages 135 and 140). Thus the working arrangement between these managers was not intimate and could be described as being weak. Although the managers knew each other they often acted in an "institutionalised" or "formal" manner, as if they were strangers, and thus the amount of innovation and improvisation contained in their discussions was restricted.

The structural unit composed of Jim Brown, Peter Travers and Charlie Johnson in turn reflected the nature of the arrangements they entered into with each other and the definition they held of each other. Peter Travers and Jim Brown were close friends and were full of admiration for each other. Although Charlie Johnson was not such a close friend, they all respected each other and arranged to inform each other of problematic situations and jointly discussed and agreed upon joint courses of action. The structural unit formed by these managers could be described as intimate, friendly and strong. Within this structural unit a high degree of improvisation and innovation took place.

It is possible to endlessly chop up or punctuate the organisation through considering the various relationships between individuals. However, not all of these could be defined as structural units. Structural units were formed by successive involvement with each other, and thus the frequency of the arrangement was an important factor. A shop floor worker observed to be talking with Chris Davis on one occasion, would hardly constitue a structural unit. However, the frequency of entering into arrangements was not sufficient to characterise the intimacy or strength of that structural unit. Jim Brown and Mike Shilling frequently entered into arrangements, but because of their hostile or antagonistic definition of each other, the structural unit was neither intimate nor particularly strong. The nature of the information passed between these

individuals was poor and the arrangement to enter into joint action was stilted and grudging. Their arrangements to enter into joint action appeared to be more in the nature of a tentative truce than a genuine desire to act in concert.

The term arrangement is intended to convey the process of entering into and maintaining relationships rather than that of a objectifiable, fixed permanent structural unit. Weick (1969) argues that when describing organisations we should use verbs which convey processes, rather than nouns which convey things or fixed structures.

> "the word organisation is a noun and is also a myth. If one looks for an organisation one will not find it. What will be found is that there are events, linked together, that transpire within concrete walls and these sequences, their pathways, their timing are the forms we erroneously make into substances when we talk about an organisation."
>
> Weick 1969

In a later paper Weick argues that in giving names to things that continually change it implies that we are trying to stabilize them. Unfortunately, this stabilization covers up the perpetually fluid process underlying all things (Weick 1974).

Thus, although the more or less permanent social or working arrangements may be identified and named as structural units, their permanence must not be overstressed at the expense of not viewing them as processes. As with other processes these structural units are subject to continual change, dissolution and rearrangement. The structural units are in a continual state of flux.; they are to some degree temporal, continually becoming;never in being. They are subject to continual modification or

rearrangement by the improvisation and actions of the members. As described above, chorus phrased improvisation by a member of a structural unit may result in a new arrangement being formed or the other members attempting to bring the deviant actor into line.

10.11 Informant Networks

The informant networks as described on page 149 may be defined as structural units reflecting more or less permanent working arrangements to inform. Informant networks as structural units were formed through successive arrangements to inform, whereby a more permanent arrangement to provide each other with reliable information emerged.

The definitions held of each other,which were of particular importance to the formation of the informant networks,were those of reliability and credibility as suppliers and receivers of information. The informant network arrangements required that the members could be relied upon to supply reliable and accurate information. Furthermore, the arrangement required that the members could be relied upon to receive sensitive information and that they were cautious in passing that information on to others. As I have described in chapter 8, the managers were aware of the importance of these definitions to the informant network arrangements and were conscious not be defined as informers.

The requirement to be a reliable receiver of information set limits on the informant networks. For it was part of the arrangement to restirct the flow of information to the senior management level. Managers were particularly careful in communicating with Cyril Jenkins and Chris Davis. These managers had the ability to enforce penal action should the information they received have identified the person responsible

for some event or situation. Kevin Linsey and David Clark fraternised too often with senior management and were often excluded from informant networks. David and Kevin always appeared to be the last to know anything that occurred outside their immediate sphere of activity or domain.

Another characteristic of the arrangement to inform through informant networks was that of reciprocity. It was necessary for Jim Brown to provide reliable information to Charlie Johnson for Jim to expect Charlie to supply him in turn with reliable information. Jim described it as "a two way thing" (page 150). As I have noted above the way in which information was supplied was subject to some improvisation, the improvisation was accepted in so far that the desired outcome was achieved. The exchange of information was not conducted on a value basis, with one piece of information being exchanged with another piece of equal worth, rather it was assumed or recognised that all would balance out even in the end.

The informant networks were in a state of flux, although fairly permanent arrangements existed, for example the one between Charlie Johnson, Jim Brown and Peter Travers. Other arrangements,for example the one between Jim Brown and Mike Shilling were less stable and subject to fluctuation because of the animosity between the individuals. However, even the more permanent, intimate arrangements were subject to dissolution and rearrangement. If Jim Brown continually neglected to inform Charlie Johnson or continually supplied him with unreliable information, Charlie Johnson in turn would cease to supply Jim with reliable information. Other more personal factors, or factors outside the process of informing could upset the balance in the arrangements. At first Charlie Johnson was antagonistic towards Jim Brown as planner, because

Charlie's exclusive control over production planning was threatened. Jim described Charlie as being difficult to communicate with (page 147). However, as Jim took more advice from Charlie the antagonism between them was healed and the arrangement to inform developed. On the other hand, Jim initially found communication with Mike Shilling satisfactory; however, as their personal relationship deteriorated the arrangement to inform dissolved and Jim Brown had to develop an alternative arrangement by going "through the back door" to Mike's supervisors for information (page 152).

The informant networks performed another crucial function: They provided a forum where managers would construct arrangements to cope with specific issues. It was within these informant networks that consensus definitions of situations were formed, themes or courses of action talked through and collective improvisation took place. When Jim Brown went to Sales to report some event, discussion would take place around the meaning of that event to those parties involved. Themes would be floated, talked through, accepted, modified or rejected. The degree of intimacy between the individuals within the informant networks affected the amount of innovative improvisation. Improvisation was more likely to occur between Jim Brown and Peter Travers than Peter Travers and Mike Shilling.

The informant networks were thus social arrangements or structural units which were instrumental to the process of informing and in turn were formed by the process of informing. Through successive arrangements to inform each other, more or less permanent taken-for-granted arrangements were developed and an identifiable social or structural unit was created. In addition to the arrangements to inform, the definitions

that managers held of each other, both in terms of their reliability and credibility as receivers and suppliers of information and in terms of the general definition or label held, were important factors in the formation of the informant networks.

I have deliberately avoided listing the members of the informant networks to do justice to, and emphasise, their state of flux and impermanence. The membership of certain informant networks could be listed and one could be fairly assured that it would continue for sometime in that make-up. However, others were observable only infrequently to cope with specific non-routine situations. During the expansion programme a new order of informant networks emerged to cope with the additional contingencies that were brought into play during this phase. The promotion of Jim Brown to Departmental Manager (page 152) and the transferring of Peter Travers to Maidenhead, significantly disrupted the informant networks, as would the eventual retirement of Charlie Johnson. Chris Davis' reshuffling of management further disrupted the taken-for-granted permanent arrangements. Thus, while it is a useful analytical device to view an organisation as a series of overlapping structural units formed by arrangements, these structural units are of a continually changing nature. Some changes were less frequent than others, and had less of an impact on other structural units than others. Jim Brown's appointment had a dramatic affect on the planning arrangement whereas Martin Keyes' appointment had little or no affect on the material control arrangement.

10.12 Social Groupings

Whereas the above arrangements to inform, reflected in the informant networks, may be defined as instrumental or task-directed arrangements,

another order of arrangements or structural units were observable and had a significant impact on the order or structure of the organisation. These were the social groupings and may be defined as"affective"arrangements; their purposes were more social than task-directed, they were primarily, although not exclusively, for entertainment and enjoyment rather than designed to "accomplish something" or to "get something done."

Whereas the informant networks as structural units were based on mutual definitions of reliablity and credibility, the social groupings as structural units were based on the more general mutual definition held by the members. Managers arranged to meet at lunch in the canteen, at tea or coffee in particular offices and at various pubs on Friday lunchtimes, because they enjoyed each others company, because they liked each other or because they had sufficient in common to engage in entertaining conversation. Thus, through successive involvement with one another and through holding complementary definitions of each other, individuals formed into more or less permanent social arrangements or structural units.

Once again,these social groupings as structural units reflected the type of arrangement they were formed on, which in turn affected or impinged upon subsequent arrangements involving those parties. The style of the conversation and the topics discussed varied from social grouping to social grouping, reflecting the characters of the individuals. The character or personality of the members were in turn instrumental in the formation of the social grouping in the first place. The social grouping comprising of Jim Brown, Peter Travers and Nigel Plant and of which I was a member, was characterised by personal anecdotes, jokes and topics which were of mutual interest; cars, motor bikes and

socializing. Furthermore,as Jim Brown, Nigel Plant and Peter Travers were strongly career orientated and ambitious, a great deal of discussion centred around general events in the factory on which they would speculate as to the impact these would have on themselves. The social grouping made up of Simon White, Mike Shilling, Tom Jackson and Ron Welsh were characterised by mutual baiting, discussions about sport and politics and provided a forum for expressing pet gripes and complaints. The social grouping made up of Charlie Johnson, Tim Steed and to a lesser extent Mike Sampey, were characterised by discussion of family and mutual friends outside of the factory. Charlie Johnson always brought his newspaper to lunch and read out short passages which would be commented on by the others. There also appeared to be long periods of silence between these individuals which characterise a relationship of long standing.

The social groupings appeared to be fairly permanent and the bondings between the individuals strong and intimate, although there were differences. Simon White's group appeared to be held together through mutual tolerance rather than genuine affection. Jim Brown, Peter Travers and Nigel Plant had a genuine respect for one another. Charlie Johnson and Tim Steed were long-standing friends both during work and socially outside the organisation. Whereas informant networks might be disrupted when a key member was promoted or when his position changed, the social groupings maintained their form, unless promotion entailed moving into the senior management canteen, which was extremely rare.

The social groupings as arrangements contained little detail or specification and were to a large extent taken-for-granted. Two particular characteristics were however noticeable. Firstly, the managers avoided discussing task directed issues, especially at lunch. Rather, they arranged to meet after lunch to discuss such issues (page 25).

Secondly, when members were taken into confidence over a particularly sensitive issue concerning one of the members, such as Peter Travers' pending transfer, there was an implicit assumption that the conversation would "go no further."

The topic or subject matter that dominated the conversations was to do with setting specific issues. That is, discussions about events or situations that were taking place within the organisation that did not directly involve the members of that social grouping in taking any action. These events were not reported merely to inform each other, but also to discuss their implications and thereby form a consensus definition of the event. In this way the social groupings acted as information pools, where managers introduced events or situations that they had heard about or had experience of and which the other members may not have. Such wide ranging information and the discussion of it, allowed the managers to construct a wider, more comprehensive portrait of the events or situations occurring in the factory at large.

Another major topic centred around the personal characteristics of other individuals who were not members of the social grouping. These discussions provided the hearsay that would influence each of the members definition of the party under discussion and would affect their subsequent actions towards that individual. In this way the managers were able to construct a fuller, more graphic portrait, of the various individuals in the setting and could in effect prepare themselves for any possible encounter with them.

Although individuals could be described as members of an identifiable social grouping, they also maintained their separateness. Conversations

and discussions were not restricted to social groupings. Each member would make contact and interact with members from other social groupings during their daily activities in their offices and on the shop floor. During these encounters information was exchanged about events in the factory and about the personal characteristics and actions of various people. Such information, if it was not sensitive, may have been generated within the managers' social groupings and further information gathered from these chance encounters would be discussed in the social grouping. Thus, the social groupings acted as accelerators of information aiding the spread of gossip or grapevine information.

The relative strength or intimacy of the social groupings, coupled with their relative permanence and frequency, made them particularly influential to the organisational order and structure. In addition to being pools and accelerators of setting specific information, they acted as a forum for the sharing of confidences and the construction of courses of action which entailed high degrees of improvisation and which could in turn have a significant impact on the wider structure of the organisation. It was in the social groupings that managers discussed the new salary structure and the management reshuffling and decided how they were going to react to these suggestions or directives from senior management. The introduction of the new incentive scheme for the workforce; proposed changes in the control of finished goods and waste; the proposed introduction of the new extruder; the layout of the factory during the expansion period; the acceptance of a new appointment; and the formulation of a complaint or suggestion to be made to senior management, all were discussed, evaluated and a course of action decided upon within, and subsequently between, the social groupings.

10.13 Summary

Interactions do not take place in a vacuum but occur within some organisational context, order, or structure. This order may be described as a series of loosely coupled sub-assemblies, overlapping awareness contexts or a series of loosely coupled shared arrangements.

For individuals to act in concert they must enter into a shared arrangement, which includes a shared definition of the situation, a shared theme or course of action and an outline of the parts to be performed by the parties involved. Thus, an arrangement permits an actor to act, and whilst acting to know, at least roughly (for misinterpretation and ambiguity may exist) what the other parties are doing.

Arrangements may differ around their degree of detail or specification, frequence or repetition, the nature of their formation and their degree of permanence.

Through successive involvement in arrangements with others and through the definition the parties hold of each other, more or less permanent social and working arrangements may be established, which may be described to be structural units. These shared arrangements as structural units may be strong and intimate or weak and distanced, more permanent or transitory.

These more or less permanent shared arrangements are typically taken- for-granted and contain little detail or specification. This loose nature allows for minor improvisation by the parties to the degree that the expected outcome of the arrangement is achieved. More dramatic improvisation or chorus phrasing such that the expected outcome of the arrangement

is not achieved create disruption which may lead to rearrangement, the creation of a new arrangement or the other parties attempting to bring the deviant actor back into line.

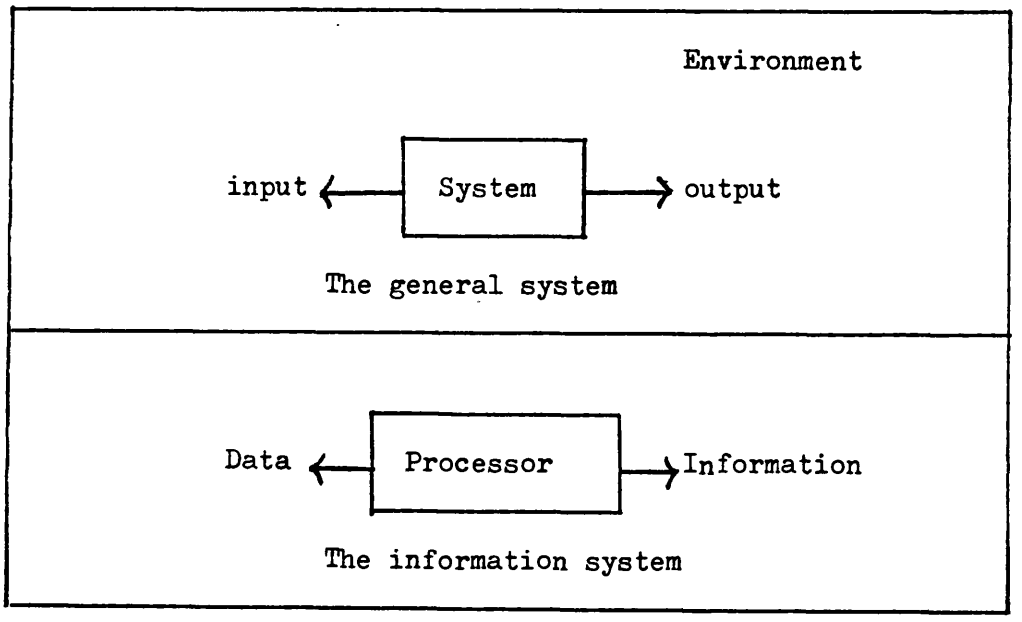
These structural units as shared arrangements reflect the arrangement they are formed on and in turn affect subsequent working arrangements entered into by the parties involved.

Informant networks may be defined as more or less permanent working arrangements to inform based on the parties' mutual definitions of each other in terms of reliability and credibility as suppliers and receivers of information.

Social groupings may be defined as more or less permanent social arrangements based on the parties' complementary and mutual definitions of each other.

IMPLICATIONS FOR THE TRADITIONAL VIEW OF MANAGEMENT INFORMATION SYSTEMS: ORGANISATIONAL REALITY

The underlying assumptions of an organisation in the traditional view of information systems are derived principally from general systems theory. A system is seen as a regularly interacting or independent group of items forming a whole. The general model of a system is input, processor and output, and as McCosh Rahaman and Earl (1981) note the management information system is an example of a system transforming data into information and they depict it thus.



The organisation therefore is seen as being made up of interacting and interdependent subsystems (of which the MIS is one) bounded by an environment. The system is maintained in equilibrium internally through goals and objectives which achieve coordination, consistency and encourage rationality, (the MIS plays an important role in this process). Externally, the system is held in equilibrium by exchanging inputs and outputs with the environment. In this way the organisation

is regarded as an open system. Furthermore, the open system is adaptive, in that, it can adjust subsystem relationships and can adapt to environmental change.

Internally the organisation is viewed as a hierarchy with lines of authority and responsibility converging towards the top, usually the managing director or president of the company. The hierarchymodel is reflected in the typical "organisational chart" with the relationships between the units or individuals representing information flow or lines of authority and responsibility.

This view of organisations conforms to the traditional view briefly outlined on page 179 . Organisational reality is seen to be a concrete process in which the entity may be delineated from its environment and its boundary plotted or identified. The basic assumptions about human nature in this model is one of "man as adaptor," adapting, as the system adapts, to the various changing contingencies with which the system interacts, Morgan and Smircich (1980).

Boland (1979) criticises the systems approach to defining information requirements;

> "they tend to result in conceptions of the organisation as being in static equilibrium, interacting with an environment which is effectively knowable, objectively verifiable and inconsequentially affectedby the action of managers. The objective of the organisation is to adapt to its environment in some optimum (or satisfying) sense, and to periodically reassess its strategy of adaption (or goals) as the environment charges.
>
> Boland 1979

Boland (1979) notes two important factors that question the above

definition. Firstly, the environment is essentially ambiguous and intimately related to the manager himself (March and Olson 1976) and secondly, the manager interprets the world as well as decodes it - he deals symbolically as well as literally with the categories, events and interactions he encounters.

Boland (1979) argues, from the interactionist perspective, that organisation reality may be viewed as a process "in which the organisation's members each participate in the construction of their organisational reality through the interaction and co-determination of each others interpretive schemes," rather than depicting it as a objectifiable reality in its own right.

Weick (1974) argues against the systems theorists' concept of equilibrium. He suggests that such a concept has its roots in logical positivism or structural functionalism, with the system reacting and then adapting to external or internal forces. Weick (1969-1977-1979) suggests that organisations should be studied as processes. Verbs should be used to describe organisations and not nouns. Weick's model of the organisation process is that of enactment, selection and retention as discussed previously.

Weick (1977) further argues against the external objective environment.

> "While the categories external/internal or outside/inside exist logically, they do not exist empirically. The "outside" or "external" world cannot be known. There is no methodological process by which one can confirm the existence of an object independent of the confirmatory process involving oneself."
>
> Weick 1977

Thus the environment, as with other contingencies may have a logical existence but not an empirical one. They exist as constructs and are useful for individuals to "punctuate" their stream of experiences; however, they ought not to be reified by systems designers. To return to the basic position of the alternative approach of viewing organisation; organisation reality is constructed by interacting individuals whereby the align their courses of action. The "environment" is constructed by interacting individuals where they share their definition of the environment."

Viewing the environment as an object leads to the problems encountered by the contingency theorist in operationalising their model and especially measuring the contingency variables. In reference to the contingency theory approach which Otley (1980) characterises as the "it all depends" approach he makes the following comment:

> "The idea that "it all depends" tends to be used as a means of avoiding rather than addressing design implications. The contingency approach thus has the appearance of being an influential but ephemeral fashion, and it is particularly insidious because it occurs in a relatively immature field."
>
> Otley 1980

As an alternative to the systems theory concept, an organisation may be viewed as patterns of interaction where by the interacting individuals align their courses of action. Certain patterns of interaction occur frequently and are taken-for-granted, this gives the appearance of a ruled orderliness or a more or less stable structure. However, the interaction as a unit should not be reified. What is of importance to understanding the nature of organisational reality is

the process of interaction; the definition that the managers hold of each other; their strategies both overt and covert; their ambitions; fears, anxieties and desires; their relative strengths and weaknesses; their perceived authority and power; their perceived reliability or credibility; and the knowledge or information they have of the situation on hand. Each of these give the form and character to the interaction (and hence the organisation) and not the mere physical presence of two or more individuals.

Within my metaphor the process of informing, of which the management information system may be part, can be viewed as a series of loosely coupled shared arrangements to inform. The arrangements are formed through interaction whereby the managers align their individual courses of action. The arrangements reflect the nature of the interaction on which they are formed and in turn influence the subsequent actions and interactions of the parties involved. Arrangements are subject to change through improvisation, on the part of the members, whereby they may alter the definition of the situation, which includes the definition held of the other parties, and/or they may alter the theme of course of action on which the arrangement is based.

The typical management information system may be viewed as an arrangement to inform, however such an arrangement is usually imposed. For an arrangement to be shared, the parties must hold complementary definitions of the characteristics of the arrangement. This includes a complementary definition of the situation, of object or persons around which the arrangement is formed and of the course of action, purpose and consequences of that arrangement. Therefore, the managers should derive similar meanings from the arrangement and should be able to anticipate the

actions of others involved in the arrangement.

From my data it appeared that managers, even within the same management level, dealing with similar problem situations, assigned different meanings to the official documented production information. I would suggest that a greater difference would exist between middle and senior management. As the majority of managers assigned little meaning to the official documented information, the courses of action selected in problematic situations were not derived from the 'formal' information, but rather, from the various 'informal' sources. The arrangement to inform, through the official documented information sources was therefore not "shared" by the users and designers of the system. In such a situation an imposed arrangement may not even constitute part of the process of informing. To understand the process of informing, the part to be played by the official documented information and in turn the role to be performed by an "information system designer",it is necessary to question the assumptions underlying the traditional view of the process of informing. As Boland (1979) has attempted to do:

> "Using an action based approach, the design of an information system is not a question of fitness for an organisational reality that can be modelled beforehand, but a question of fitness for use in the construction of an organisational reality through the symbolic interaction of its participants. In essence the information system is an environment of symbols within which a sense-making process will be carried out. The information system does not make sense in light of an organisation, but is used by managers to make sense of the organisation."
>
> Boland 1979

Boland (1979) further argues that:

> "for these types of design issues, information systems are in need of new metaphors to guide the design process."
>
> Boland 1979

This thesis was not intended to be prescriptive nor was it directed towards design issues, rather it was to question the nature of the process of informing. However, arising out of this research are a number of very tentative design implications. Firstly, in response to Boland's request for new metaphors I will offer the following. A "system designer," may be viewed as an "arranger." This is of course derived once again from my jazz metaphor. Mike Westbrook (1981) describes the role of an arranger in jazz;

> "My job is to provide a structure and then work on it within the band. The music is a collective concern with ample room for improvisation and individual ideas. Working together we create a chain reaction and that's what provides the thrills."
>
> Westbrook 1981

The most intelligent jazz composers always recognise that jazz is not composed of notes or instruments but of creative men and women. In the same way the process of informing is not composed of measures and pieces of paper but of creative men and women interpreting and making sense of the situations and events that surround them. The arrangement to inform must reflect the creative nature of managers and should subsequently facilitate and encourage it.

Typically the designer of information systems have some 'goal' or 'objective' underlying their design process. Murdick (1980) describes it as an attempt to;

> "raise the process of managing from the level of piecemeal spotty information, intuitive guesswork, and isolated problem solving to the level of systems insights, systems information, sophisticated data processing and systems problem solving."
>
> Murdick 1980

The management information system is to aid the process of managing which includes the following functions;

Planning: Planning proceeds all managerial actions. It involves development of alternatives, selection of goals, defining of policies, and developing procedures and programmes to achieve organisational and departmental goals.

Organising: Organising involves task identification,definition, grouping and distribution among subordinates, fixing of responsibility and also ensuring co-ordination between different activities and efforts.

Staffing: Staffing involves the process of fulfilling personnel requirements of the organisation. It covers such functions as recruiting, selecting, training and hiring personnel to man the organisation and to perform its tasks.

Directing: Directing involves leading, guiding, supervising and motivating subordinates in the organisation. It is essentially a leadership function and is concerned with people.

Control: Controlling is ensuring the performance of events to control plans. It involves (1) setting standards (2) measurement of performance, (3) comparison against standard and (4) corrective action.

McCosh Rahaman and Earl 1981

In order to fulfil these functions, the manager must first know what is going on. Thus the first and fundamental requirement of the process of informing, and any designers involvement in it, is to provide a facility through which managers may inform themselves,or as Weick (1979) states, a facility to reduce ambiguity, uncertainty and equivocality surrounding situations. In some cases, of persistent ambiguity, the manager may have to act in order to find out what he is doing, the process of informing should again fulfil the same function; he should be able to inform himself of what is going on whilst it is happening.

Until the facility for managers to inform themselves is available the process of informing should be uncoupled from the processes of planning, organising, staffing, directing and controlling, at least in the arranger's framework. The 'objective' of the arranger as designer is to provide,or possibly recognise and draw attention to,facilities through which managers may gather or receive data and through interpreting that data, construct a definition of the situation, in a sufficiently timely, accurate and detailed manner to decide upon or improvise a course of action.

To achieve this 'objective' the arranger as designer must identify and recognise the legitimacy of 'informal' sources which managers define as

being meaningful and thus useful sources of data. These include, meetings, personal records, observations and interactions. The arranger as designer must also recognise the informant networks and social groupings existing in the organisation and the role they play in the process of informing. He should further recognise the role of the official documented information and its role in the process of informing as distinct from the processes of planning and control.

To talk of designing 'informal' information sources has an inherent contradiction. For, if the 'informal' is designed it becomes 'formal.' This firstly, will result in the informal sources losing their flexibility of content and format and secondly, may cause an unfavourable reaction from the managers who developed these processes. Information as has been seen on page 246 was used for both offensive and defensive reasons, in addition to "finding out." Thus, managers might be reluctant to have their sources of information-and thus the content-on general view. Reluctance to use informal information may come from the other side, with senior managers regarding it as gossip, hearsay, unreliable, not objective and so forth. Hence my assertion that the legitimacy of 'informal' sources must first be recognised. Furthermore, it should be noted that even senior managers use 'informal information.'

Rather than designing the informal information per se, the arranger would have to encourage its recognition and legitimacy and then to arrange for such information to be shared. Managers, particularly senior managers, should seek to be included in the informant networks and enter into the shared arrangements to inform. This entails becoming a reliable receiver and supplier of information. The

managers must hold complementary and shared definitions of the arrangements to inform which includes a shared definition of the purpose and actions arising out of the arrangement. This again reinforces the point that the control process, with its emphasis of the evaluation of performance, should be uncoupled from the process of informing, with its emphasis on finding out what is going on.

Boland (1979) recognises the problems in 'designing' the process of informing:

> "To a large extent the sense-making process cannot be designed as such. It is the natural result of active persons in a social world. There are no mechanical, clockwork-like relationship indications, objects, interactions and interpretations."
>
> Boland 1979

From this standpoint it might be argued that systems designers should leave the process of informing through interaction well alone, however Boland (1979) further argues:

> "An information system does however play a role in shaping situations - it provides a context for social interaction. As a context, we can approach the design of an information system from the standpoint of pure channels of communication. Apart from any consideration of the data, categories and measurements to be used the very existence of a channel of communication can be an object of design."
>
> Boland 1979

By recognising the various arrangements to inform, understanding their nature, understanding the processes involved in their formation and particularly understanding their role in providing a context for social interaction and therefore creative improvisation, managers,

until then excluded from such arrangements may be able to involve themselves in them, and possibly, through improvisation, re-arrange the arrangement if necessary. Or a designer, as arranger, may form new arrangements simply by providing a forum for interaction, improvisation and thus informing. Brain-storming sessions are an example of such a forum. Again the managers would have to hold complementary definitions for these forums, or else as was the case with the Production Meeting, they would serve little purpose.

NOTES

1. The concept of selecting an appropriate theme for recurrent familiar situations, and the notion of agreement through collective improvisation for unfamiliar situations are in keeping with these points made by Blumer (1962).

2. The notion that accounting and management information is a language or provides symbols for interpreting a variety of events within an organisation has been noted by Hayes Wolf and Cooper (1981). They suggest that accounting as a language may contribute to the shared definitions of organisational reality and the organisation's situation, Berger and Luckman (1967). It however has been further noted by Daft and Wigington (1979) that management (accounting) information as a language may be too restrictive to cope with the complexity of many situations and suggest that common or colloquial language may be more suitable for expressing certain events or situations.

3. The restriction of an improvisor's freedom through too formalised and too strictly enforced rules or operating procedures is yet another characteristic that may impede creative, innovative improvisation in organisations. Steiner (1965) notes that creativity is enhanced by permitting freedom in choice of problem and method of pursuit.

CHAPTER 11

SUMMARY AND CONCLUSIONS

> "For some time people who manage organizations and people who study this managing have asked, "How does an organization go about doing what it does and with what consequences for its people, processes, products and persistence?" And for some time they've heard the same answers. In paraphrase the answers say essentially that an organization does what it does because of plans, intentional selection of means that get the organization to agree upon goals, and all of this is accomplished by such rationalized procedures as cost benefit analyses, division of labour, specified areas of discretion, authority invested in the office, job descriptions, and a consistent evaluation and reward system. The only problem with that portrait is that it is rare in nature."
>
> Weick 1976

This thesis is an attempt to find out what really does go on in organizations. The purpose of the research was not verification, but rather exploration and discovery. This pursuit, that is the exploration and discovery of what goes on in organizations, led me to adopt a longitudinal, participant observation methodology which required me to conduct the research in the "real" or "empirical" world. The study was longitudinal, for I believe that it is only through familiarity that the complex patterns of organisational life clearly emerge, and can be studied and analysed by the researcher and ultimately concepts developed.

This thesis was an attempt not only to find new answers to the question posed by Weick above, but also to find a new way to phrase or ask the question itself. The question that this thesis asked was not, "What do organizations do?" but rather "What do people do in organizations?" The answer to the first question is very simple; organisations don't do anything! The answer to the second question is somewhat more complex

and its solution requires the co-operative and cumulative effort of numerous researchers. In recognising this complexity I chose to focus my attention on a specific process in an organization, which involved the actions of various managers. The process I chose to study was the process of informing. This process took place in a "thing" called an organization and this it is necessary to consider the nature of this "thing."

To find a consensus definition of the term organization is profoundly difficult. First and foremost it is simply a term or a word. A word symbolically represents some "thing." The "thing" may be an "event", an "object," a "process," an "idea" or a "concept." If it is accepted that individuals develop idiosyncratic approaches to the meaning of words, then the word organization can represent different "things" to different people. As Weick (1979) notes, organizations have been variously portrayed as anarchies, seesaws, space stations, garbage cans, savage tribes, octopoid, market places and data processing schedules. Each of these metaphors attribute certain characteristics or meanings to the "thing" called an organization.

For myself, an organization is an arena, a forum, a stage, or my preferred term, a social setting in which a number of individuals act out at least part of their daily lives. Within an industrial organization, as a social setting, there is an implicit recognition, by the acting individuals, that the task to be performed is of such a sophistication or complexity that it requires they enter into joint or concerted action. An organization therefore, is a social setting in which the participants align their individual courses of action to accomplish some sophisticated or complex task. The acts and actions of the

individuals are social, in that they are orientated towards one another. The web of meanings, expectations and conduct, resulting from such mutual orientations or interactions, forms the foundation of the organization. Given this view, the meanings, expectations and conduct, should be the subject matter of enquiry in the study of organizations.

Within this view of organizations, human beings are seen as active agents in creating their social setting, which, in turn, influences their behaviour. The interactionist's conception of human behaviour assumes that behaviour is self-directed, and observable at two distinct levels - the symbolic and the interactional (or behavioural) (Denzin 1970). The concern of the interactionist is not only the observable actions or interactions of individuals but also the subjective meaning those actions and interactions have for the acting and interacting individuals themselves.

Individuals act towards "things" according to the meaning those things have for them. Individuals therefore, through their interpretative processes, assign meaning to things and thereby construct definitions of the situations they encounter. Individuals then construct their actions according to the definition thus formed. The meanings of things are socially derived through interaction with others whereby a consensual definition or a 'social construction' of reality is agreed. Such meanings, and hence definitions, are fluid and may be reinterpreted or redefined in subsequent interactions.

My view of human behaviour, (as with the interactionist perspective) is basically anti-deterministic. I see individuals having the ability, should they choose to use it, to derive and assign new meanings to

"things," develop novel definitions of situations and thereby construct creative, innovative modes of behaviour. This is not to portray individuals as transcending all societal influence, for consensual definitions or social constructions, and agreement on acceptable modes of behaviour in given situations, act upon the individual. These influences may constrain or limit the individual's desire or his belief in himself, to develop creative innovative modes of behaviour. Societal influences; the agreed norms, values and rules that go to make up our social order delineate from total potential of action that which is "done" and more often, that which is "not done." Yet these agreed norms, values and rules are themselves processes which require to be continually reaffirmed. Alternatively the agreed norms, values and rules may be modified or altered through subsequent interaction where novel, innovative behaviour is introduced by at least one of the interactants and accepted as plausible or appropriate by the significant others.

This model of the individual and society allows for the appearance of a seemingly permanent, non-surprising ruled orderliness to our daily lives and the organizations and settings in which we act out these lives. The model, further allows for the seemingly inevitable change that appears to take place within this order if a decently long time span is considered. It is this pivot point of change and order that intrigued me, particularly during the analysis of my data stage in the thesis and it is towards this phenomena that I would conduct any future research.

To return to the organization and the managers. Within the factory at Avon, I observed the managers creating and being confronted by a multiplicity of events and situations. The managers, in order to act towards these events and situations, first had to make sense of them. The

managers had to construct definitions of the situations (or at least of some of the situations). The process of informing as described in the thesis plays an integral and crucial role in the sense making process and in the construction of definitions of situations. Thus, if it is accepted that managers act according to their definitions or the sense they make of their surroundings, the process of informing plays an integral and crucial role in the very actions and interactions of the managers. Further, if organizations are viewed as patterns of interaction the process of informing therefore has a crucial role to play in the creation, sustaining and modification of the organizational reality. Given this perspective I believe that the study of the process of informing will enhance our understanding of the nature of human behaviour and the nature of organisational reality.

This thesis was firstly addressed to the various means, media, mechanisms or sources through which the managers gathered, received or circulated the raw data or "mere" information (processed data) about events or situations which had taken place, were taking place or were likely to take place within the organization. The managers at Avon developed idiosyncratic approaches to the various sources of data or "mere" information, relying on, and emphasising the importance of, the sources they were predisposed towards using. However, a number of sources were readily identifiable and used to some degree by most managers. These were the official documented information (formal information), meetings, personal records, direct observations and interactions.

The thesis was secondly addressed to the process by which managers converted the data or "mere" information they received or gathered into meaningful information. I describe this as an interpretative process through which managers assign meaning to the data or "mere" information

and thereby develop a definition of the situation.

The managers had an implicit or intuitive understanding of the "human" nature of organizations,in that, they recognised that situations and events invariably involved the actions of people or "others." Thus, crucial to the development of a definition of the situation was data or "mere" information on those others involved. Managers further had definitions or portraits of significant others in the organisation. Crucial to the process of informing, in these personal definitions, was the perceived reliability of the informant (including those involved in the preparation of the official documented sources).

The managers at Avon, as with most human beings, had a highly developed and sensitive personal identity and were conscious of the impression their performance or actions had on significant others. Managers were thus acutely concerned about being well, and correctly informed. Furthermore managers recognised the reciprocal nature of information and were concerned that others defined them as reliable receivers and suppliers of information.

Thus, crucial factors in the construction of a definition of a situation and thus the process of informing were the actions, intentions, consequences to, and responses from others and the impact to the managers' self and role, as well as the more physical and temporal characteristics of the event or situation.

The thesis was thirdly addressed to the process of selecting or constructing a course of action based upon the definition of the situation the managers had developed from the data or "mere" information they had gathered or received. I differentiated problematic situations into;

firstly, those which were defined as familiar to previous situations. The managers could then repeat the course of action they had adopted on the previous occasion (if the outcome or consequences of the previous action were acceptable). Secondly, those situations which were defined as unfamiliar (even after gathering additional information). In such a situation the manager would recognise the ambiguity, uncertainty or equivocality of the situation. The manager could then attempt to employ a standard or scripted response to the situation. If these however, proved inappropriate, he would have to create a new, innovative course of action or solution (unless he chose non-action on an inappropriate course of action).

Borrowing from the jazz metaphor I described this creative process as one of "improvisation", whereby individuals created new lines of behaviour by improvising around existing themes. I further suggested that the degree of novelty in an improvisation may vary between minor (paraphrasing) or major (chorus phrasing)innovativeness.

The field work or data gathering stage of this thesis was not specifically intended to provide data on the phenomena of improvisation, rather the questions posed, arose during my analysis stage. The concept of improvisation may be regarded as a product of my "sociological imagination" (Denzin 1978). The concept is in part speculative, although I do offer episodes which I believe are illustrative of the process of improvisation. The concept of improvisation provides a metaphor to explain the process of creating innovative behaviour in the face of unfamiliarity, ambiguity or uncertainty. It further anchors this process to the past experience of the individual and previous acceptable or taken-for-granted behaviour. The concept of collective improvisation provides a metaphor for explaining

how agreement is reached between a number of individuals when faced with a situation which is defined as unfamiliar, ambiguous and uncertain. This metaphor is offered as an alternative to the concept of a negotiation, which I found, as a metaphor, too restricting and only applicable where tension existed between the parties and where the interactants had a clear understanding of the outcome they desired.

Within my anti-deterministic view of human behaviour I suggest that each individual has the ability to, and often does, construct novel innovative behaviour in their imaginations. This minded behaviour however, rarely manifests itself in the empirical world. The social pressures to conform to that which is recognised as legitimate, and the desire to avoid that which is "not done," represses much of the potential original behaviour. Mead's ME, the generalized and often some specific other, acts upon and limits the spontaneous I. On the other hand, other individuals manifest their novel innovative behaviour in their actions. And thus, the behaviour is introduced into the empirical world. If such behaviour is regarded as applicable or plausible in the given situation it may be absorbed into the total set of acceptable behaviour that goes to make up the social order.

The thesis fourthly introduced the metaphor of an "arrangement." The metaphor was used to depict three interrelated concepts or ideas. Firstly, the coupling of a definition of a situation and a theme or course of action may be regarded as the formation of a "sensible arrangement." The emphasis is on a sensible arrangement rather than the sensible arrangement. It is possible to construct a variety of definitions of a situation and couple these with a variety of themes or courses of action which in turn may be improvised around thus the

variety of potential courses of action is vast.

Secondly, joint or concerted action, the very stuff of organizational reality, may be viewed as a series of"loosely coupled shared arrangements." For joint action to be undertaken, the parties musthold similar definitions of the situation and of the theme or course of action to be performed. In addition,each party must be aware of the parts they are expected to perform within the arrangement. A shared arrangement, constructed around a definition of a situation enables each interactant to know in advance what is expected of them. Shared arrangements may differ around a number of characteristics; first, the degree of detailed specification; second, the frequency of occurrence; and third, the intimacy of the members.

Improvisation may be viewed as taking place within these arrangements. Because of their loosely coupled nature the arrangements can absorb and tolerate minor improvisations (paraphrases) but may have to be rearranged if significantly innovative behaviour (chorus phrases) are introduced by the existing members or by a new member.

The nature by which shared arrangements, and the purpose for which they were formed will be reflected in the characteristics of the arrangement and will influence the subsequent actions and interactions of the members of the arrangement.

Thirdly, many of these arrangements which occur frequently and at regular intervals become so taken-for-granted that they appear as semi-permanent "structural" units. At the middle management level I identified two such arrangements as structural units. These were the

social groupings and informant networks. The social groupings were intimate, frequent and of low specification, they were principally a forum for social or non-work related issues. However they performed an important role in the organization in providing setting specific information,(gossip or hearsay)about other parties or events in other areas of the organization. They were important pools of data or"mere" information through which the participating managers could construct a fuller picture or definition of the "goings on" in the organization and of the nature and characteristics of other members of the organization.

The informant networks were arrangements to inform. They comprised of individuals who could rely on each other to keep them informed with reliable information. The informant networks were less intimate than the social groupings and their purpose was more task-directed. The basis of their formation was that of reciprocating information which was defined to be of consequence to the various members. Such networks were in a greater state of flux than the social groupings, their make-up being altered by changing circumstances; the promotion, transfer and retiring of personnel and the conflict that from time to time would develop between the members. As arrangements to inform these informant networks played a crucial and central role in the process of informing in that they created regular contacts between individual managers where data or "mere" information was communicated. Furthermore, these informant networks or alternatively patterns of interaction, provided a forum for the interactants to reach agreement on joint or concerted action as well as a forum in which collective improvisation could take place.

The concept of loosely coupled shared arrangements as structural units is derived from Weick's (1976) concept of loosely coupled systems. I however, chose the word arrangement to depict these "structural" units as a process of"entering into"and"acting within"an arrangement rather than as some permanent concrete system. Many arrangements were almost entirely taken-for-granted and commonplace. The ethnomethodologists, for example Garfinkel (1967) and Filmer (1972) regard these taken-for-granted activities (or arrangements) as a crucial area of study in the understanding of human behaviour. Filmer (1972) notes that common place, everyday, taken-for-granted activities are characterised by an implicit order which emerges in the course of interaction and the activity itself. This order functions to make situations "accountable" that is, explainable or understandable. He states that much of our daily activities assume the existence of an "et cetera clause" whereby our expressions (verbal and non-verbal) imply a continued directive towards a given type of social activity that is not explicityly stated. In my view the social order may be viewed as a shared arrangement, based upon a mutual definition of a situation and an agreed theme or course of action. Thus arrangements outline, without explicit statement on each occasion, the parts expected to be performed by the participating individuals.

Weick (1976) lists a number of potential functions and disfunctions of loose coupling. One advantage is that small loosely coupled arrangements are more effective as sensing devices or are more sensitive to the detection of change, errors or problematic situations. Argyris (1980) reinforces this in terms of the inefficiency of the typical management information system in detecting errors until they have reached significant proportions; the "local MIS" or the various 'informal' modes

of informing are more sensitive and thus detect errors or change before they become significant.

Another advantage cited by Weick (1976) is that localized adaption may take place without significantly affecting other parts of the organization. Thus the introduction of a new person may alter the arrangement in one particular area without disrupting other areas in the organisation.

Another advantage is that where the arrangment and the individuals in them maintain their identity, uniqueness and separateness, they may form into new arrangements (through interaction) to face novel or new situations. For example, during the expansion programme in the factory the managers rearranged themselves to cope with the new contingencies brought into play.

Another advantage is that where a breakdown occurs in an arrangement, (for example between Jim Brown and Mike Shilling) the rift may be localised in that area without unduly affecting other arrangements. Furthermore, in accordance with the previous point a new arrangement may be formed to cope with the deteriorated existing arrangement.

A final and most important advantage is that within loosely coupled shared arrangements there is "more room" for self-determination by the actors. In "formal" systems with the emphasis on highly specific detailed procedures self-determination is limited and thus restricts creative innovative problem solving. Argyris (1971) refers to this as a restriction in psychological freedom. Hayes, Wolf and Cooper (1981) note that the budgetary control system may further limit self-determination.

This concept of loosely coupled shared arrangements may appear to have some potential dysfunctions to the more traditional view of organizations in that they may not conform to the model of unilateral control, the imperatives to consistency, rationality and the pursuit of some organizational purpose or objectives.

The preceding analysis is based on direct observation of loosely coupled shared arrangements in an organization. The analysis is not prescriptive or normative, rather it describes a phenomena which occurs in the empirical world (albeit in the so-called informal system (world)). Thus, recognising the existence of these arrangmnts and recognising their benefits (as the managers themselves did); what is required is a re-evaluation of the models of organizational reality, human behaviour, and of the various processes such as planning, control and informing which have dominated the study of organization theory and behaviour.

At the end of chapters 5, 8, 9 and 10 I have attempted to question the traditional view of management information systems in the light of my analysis; the issues centred around; firstly, the traditional views concept of a single total system supplying all the information requirements of the managers; secondly, the nature of meaningful information; thirdly, the assumptions about choice; fourthly, the assumptions about the nature of organizational reality; and finally, I presented some tentative suggestions and a metaphor for design issues.

If the various assumptions about human nature, the nature of organisational reality and the various processes are to be questioned further, what are required are observational study with what Swieringa (1980) calls

"nonteleogical thinking." Such thinking concerns itself not with "what should be or could or might be, but rather with what actually 'is.' " Hopwood (1980) commenting on this paper makes the following call; (it is expressed in terms of accounting information but implicitly relates to management information in general).

> "My own view is that accounting researchers need to get inside the factory gate or the office door. There is, I think, an urgent need for observational studies of accounting in action."
>
> Hopwood 1980

This thesis is an attempt, in a small way, to do just this.

In embarking upon research of this nature, particularly if the approach is alien to the researcher, a number of epistemological and methodological considerations become relevant and possibly problematic. In the final chapter, I address myself to some issues found in the methodological literature which centre around this qualitative, observational style of research. I further draw on my own personal experiences to illustrate these and other issues.

CHAPTER 12

TRAVELLERS AND TOURISTS IN RESEARCH: METHODOLOGICAL IMPLICATIONS

12.1 The Research Process

Throughout the initial autobiographical chapters I defined my research variously as qualitative, in depth, longitudinal and as a participant observational study. I now propose to discuss these methodological issues in more depth, and the implications they had for my research.

I deliberately included the two autobiographical chapters and I believe that the process of conducting research, the selection of a topic or the formation of a research problem, the adoption of a particular ontology and epistemology, the actual methods of gathering data and the analysis and presentation of that data are crucial to the research act and its outcome. I would suggest that such issues and processes should be explicitly recognised and where possible described in a thesis. The aim of recognising and describing the process of research is two fold. The first is to provide an account of one's experience so that other researchers adopting a similar approach may benefit. This point has been made by Tomkins, Rosenberg and Colville (1980).

> "An underlying assumption behind this paper is that social science and researchers would derive considerable benefit if accounts of how social science is carried out in the real world were available as readily as formal textbooks on research methodology. It is, in fact part of the common sense occupational culture of the social sciences that a considerable discrepancy exists between how social science has actually been done and what is found in the textbook."
>
> Tomkins Rosenberg and Colville 1980

Thus in the first instance my autobiographical chapters and this chapter are an attempt to describe how this piece of research was actually carried out. Secondly by providing such a descriptive account the reader may gain a clearer understanding of how the research unfolded and be more able to assess its validity or as I shall argue its reasonableness.

In the first instance I described my research as qualitative rather than quantitative; what does this mean and what implications does it have for research? To begin with Morgan and Smircich (1980) make the following point:

> "Our basic thesis is that the case for any research method, whether qualitative or quantitative, cannot be considered or presented in the abstract, because the choice and adequacy of a method embodies a variety of assumptions regarding the nature of knowledge and the methods through which that knowledge can be obtained, as well as a set of root assumptions about the nature of the phenomena to be investigated."
>
> Morgan and Smircich 1980

When embarking on a piece of research the researcher carries with him a set of assumptions regarding ontology, human nature and epistemology and these may be developed and precisely defined, or as in my case partially developed and ill defined (page 14). I have argued that on entering the field I was neither an expert nor a total naif; to paraphrase Weick (1979) I had to conduct my research in order to find out what I was doing and write my thesis in order to find out what I was saying. I deliberately left this chapter on methodology until the end of the thesis because it was only after I had conducted the research that I was able to articulate my chosen ontology, my view on human nature

and my epistemological stance. Throughout my field work, and to a large extent my writing-up, I had to rely on a somewhat naive understanding of the above concepts, and what I would describe as a common sense or intuitive approach to gathering and analysing my data.

In addition to whatever contribution my thesis may have made to an understanding of the process of informing, of managerial behaviour, of interaction and of social order, it was also a process of learning. In the first instance the research introduced me to and required that I learn at least a part of a new discipline, namely sociology and social psychology. During this process of learning which I would argue is still by no means complete, I was introduced to a different way of "looking at things" and of conducting research. With hindsight I am able to describe it as a move away from the more objectivist approaches to social science and towards the more subjectivist approaches (Morgan and Smircich 1980). These rather simple categories have been variously termed "positivist versus interpretivist" (Halfpenny 1979), "scientific versus naturalistic" (Tomkins and Grove 1981), "natural scientific versus the alternative" (Colville 1981). Regardless of the titles each category conveys an epistemology, an ontology and a view of human behaviour or human nature. Tomkins and Grove (1981) note that rather than being simple dichotomous types, these perspectives may be better viewed as opposite ends of a continuum. Morgan and Smircich 1980 have provided a table representing this continuum which I can do no better than to duplicate here:

Table 1
Network of Basic Assumptions Characterizing The Subjective—Objective Debate within Social Science

	Subjectivist Approaches to Social Science ←					→ Objectivist Approaches to Social Science
Core Ontological Assumptions	reality as a projection of human imagination	reality as a social construction	reality as a realm of symbolic discourse	reality as a contextual field of information	reality as a concrete process	reality as a concrete structure
Assumptions About Human Nature	man as pure spirit, consciousness, being	man as a social constructor, the symbol creator	man as an actor, the symbol user	man as an information processor	man as an adaptor	man as a responder
Basic Epistemological Stance	to obtain phenomenological insight, revelation	to understand how social reality is created	to understand patterns of symbolic discourse	to map contexts	to study systems, process, change	to construct a positivist science
Some Favored Metaphors	transcendental	language game, accomplishment, text	theater, culture	cybernetic	organism	machine
Research Methods	exploration of pure subjectivity	hermeneutics	symbolic analysis	contextual analysis of Gestalten	historical analysis	lab experiments, surveys

I would suggest that my research was a move away from reality as a concrete structure, process or contextual field of information, towards reality as a realm of symbolic discourse and to a lesser degree reality as a social construction. On page 12 I describe how my initial research proposals were scattered with the rhetoric of systems theory; rather naive assumptions of human behaviour in terms of needs and goal fulfilling tendencies and a picture of organizational reality based on concrete structures and processes. However, through attending the Organisation Behaviour Group's seminars, I was introduced to the more humanist or phenomenological sociology and social psychology and to the new paradigm of research methodology with its emphasis on qualitative research.

In such a situation the researcher is faced with a choice. The question this raises is what factors would influence the choice? My choice of perspective did not occur at any one moment in time but was a gradual

process and was influenced by a number of factors, some conscious and others possibly unconscious. Furthermore the process of choice was not a neat chronological sequence but rather the various factors came into play as being the dominant influence from time to time. The most influential factors were the following:

a) The Current Research Vogue in the School of Management

In my first year as a researcher many of my peers, lecturers and research officers were actively exploring the literature of the humanist sociology and social psychology and the methodological implications of qualitative research. Thus, there was an atmosphere which fostered and treated seriously such approaches to research. Through methodological workshops, discussions with my colleagues and reading the literature I became aware of and developed an interest in this area.

b) Supervisors Influence

Although it was largely left to me to choose my own approach my supervisors undoubtedly had a very strong influence on my choice. My supervisors were actively involved in this new paradigm and encouraged its development within the school.

c) Personal Experience and Self Reflection

I had a growing disillusionment with the orthodox ontology or natural science approach to research because I felt that it was inadequate as a means of explaining my own personal experience and behaviour. I found sympathy for this feeling of inadequacy in the literature:

> "Rather the questioners hold that organisations and the groups of individuals who make them up differ from phenomena of interest to the natural sciences in ways that make natural science methods inappropriate for their study."
>
> Behling 1980

I felt I was more able to explain my own and others actions in terms of the interpretivist and particularly the symbolic interactionist tradition rather than in terms of the more positivist or objectivist approaches. In addition the argument that if we, as researchers, wished to understand how people behaved, it was appropriate to watch them behaving, as advocated by participant observation, had an appealing logic.

d) The Data

Whilst I recognise that in adopting a particular methodology and ontology it will influence the type of data the researcher gathers and the processes or events he is likely to pay attention to; I would suggest that at the commencement of my fieldwork I was still hovering on the fence, and was likely to shift towards the quantitative, if the perceived risks of qualitative research became too great. I in fact defined my initial period of research in the Avon factory as an exploratory study, from which I could construct a hypothesis to be subsequently tested through more quantitative questionnaire techniques. However, the data I gathered was of a sufficiently rich nature that it could be analysed within the interpretivistic perspective and this encouraged me to continue with the qualitative research.

At the beginning of my research I had the intention of linking symbolic

interactionism with the more objectivist approaches through my organization change research model. However, as described in chapter 3, my data thwarted this model. A research topic which lent itself to being analysed within the interpretivist tradition, using qualitative methods, then emerged. This encouraged me to remain within the qualitative paradigm. Furthermore, with my growing understanding of the various perspectives in the social sciences it became apparent that although it is possible to view the objectivist/subjectivist classification as a continuum it must be recognised that each perspective, outlined by Morgan and Smircich (1980), are derived from different and largely antagonistic assumptionsof ontology, of human behaviour and of epistemology. Thus, an attempt to match the concept of "reality as a concrete process" and "reality as a realm of symbolic discourse" is hazardous.

These then, were the factors that influenced my choice of perspective. I would suggest that this choice which would confront all astute researchers is of crucial importance to the research act and its outcome, and therefore should be included in all theses. The intellectual "slogging match" included in most theses, whereby the researcher argues for his perspective by criticising other perspectives is a justification of choice rather than an explanation of it. Such critiques and justifications are I feel important but should not preclude a description of the process of choosing one's perspective.

12.2 Metaphors and Theoretical Perspectives

Harré and Secord (1972) distinguish between "accessible mechanisms" and "quasi accessible mechanisms" that face the researcher. The description of how managers informed themselves in chapter 5 corresponds to the accessible mechanism in that they were immediately

observable and one could, if one desired, plot or measure the various mechanisms by which managers gathered and circulated information. However, the processes by which managers converted mere information or data into meaningful information, formed sensible arrangements and shared those arrangements with others, were not immediately accessible to the researcher, although they are implicit in the actions and accounts of the managers. To analyse such quasi accessible mechanisms Harré and Secord contend that the researcher requires more than exploration and observation but in addition to this the researcher requires imagination. They further argue that imagination is not totally unstructured but is based on a set of root assumptions, models or metaphors which will guide and impinge upon the imagination and its outcome. As Morgan and Smircich (1980) contend, these will include assumptions regarding ontology, human nature and epistemology. What follows are my root assumptions, articulated after conducting the research and writing-up, but implicit (although ill defined) throughout the conducting of the research.

12.2.1 Ontological Assumptions and Assumptions About Human Nature

Social or organizational reality can be viewed as patterns of symbolic relationships and meanings created, sustained and modified by the process of human interaction. Organizational and social reality from this view is located nowhere but in these patterns of interaction. The basic elements of an organization are individuals and individual relationships, in which the individuals not only create the organization, they are the organization (Colville 1981). The apparent stability or routine patterned aspects of reality is achieved through the operation of rule-like activities that define the social milieu. However, interaction as a social process creates and upholds the rules, the rules do not uphold the process (Mangham 1979). Thus the rules or patterns are always open

to reaffirmation or change through the interpretations and actions of individual members enacting a meaningful relationship with that world. The meaning which actors attach to their social world is derived through interaction with others. Interaction and shared meaning permits individual actors to act alike or to align their individual courses of action. However, humans are actors with the capacity to interpret, modify and sometimes create new modes of behaviour. Thus the human actor in interpreting his social world may conform to the expectations of the generalized or a specific other or may improvise and introduce novel or new behaviour. In a very real sense the individual and the social world are both determiners and determined (Mangham 1979).

12.2.2 Epistemological Assumptions

Adopting such ontological assumptions and assumptions about the nature of human or social behaviour as opposed to the positivist or objectivist assumptions, raise certain implications of epistemology.

As Colvile (1981) notes the difference between the two approaches is reflected in the stance adopted by Durkheim and Weber as to what constitutes sociology. Whereas Durkheim described the task of sociology as being the explication of social facts, Weber saw the sociological enterprise as being concerned with the understanding and interpretation of social action.

Viewing organizations as concrete structures would tend towards logical positivism with an emphasis on the empirical analysis of concrete relationships in an external social world. Positivism encourages a concern for the precise nature of laws, regularities and relationships

among phenomena measured in terms of social facts.

Positivism has its roots in the natural or classical sciences (physics, chemistry and biology). In translation into the behavioural or social sciences three fundamental ideas have been taken for granted as providing a sound methodological and theoretical foundation for a behavioural science. These are: a mechanistic model of man; a conception of cause that places stress on external stimuli, and a related methodology based upon the logical and epistemological theories of logical positivism. The more behavioural science has fitted itself into these conceptions, the more scientific validity it has believed itself to deserve (Harré and Secord 1972).

On the other hand if one views organizational reality as symbolic interaction the epistemological emphasis is placed on understanding the nature and patterning of the symbols through which individuals interact and form their social reality. This position rejects the idea that the world can be represented in terms of deterministic relationships, in favour of a view that knowledge, understanding and explanations of social affairs must take into account how social order is fashioned by human beings in ways that are meaningful to them (Morgan and Smircich 1980). Thus social reality is not something which can be taken for granted but must be treated as problematic (Colville 1981).

12.3 Methodological Implications

To operationalize the positivist perspective it requires a methodology which entails laboratory experimentation, and in the field, survey questionnaires, inventories and demographic analysis. The positivist is searching for "facts" and "causes" and utilizes these methods to

produce quantitative data which will allow him statistically to prove relationships between operationally defined variables or elementary constituents. The positivists assume that the social world lends itself to an objective form of measurement, and that the social scientist can reveal the nature of the world by examining lawful relationships between elements that, for the sake of accurate definition and measurement, have to be extracted from their context (Bogdan and Taylor 1975).

To operationalize the interpretivist perspective with its epistemology, alternative methodologies must be employed and these tend to be qualitative rather than quantitative. Qualitative methods yield descriptive data which enables the interpretivist to see the world as the subject sees it, or as Weber terms it, through "verstehen" which represents an empathetic understanding of the individual's situation. Colville(1981) comments:

> "Verstehen does not constitute a method as such, rather it is a particular experimental form in which common sense thinking takes cognisance of the social or cultural world."
>
> Colville 1981

I recognise that the two ontologies in Morgan and Smircich's continuum of reality as a concrete process and reality as a contextual field of information need not adopt the extreme principles of logical positivism. In their attempts to understand the world as an open system or as a concrete process evolving over time and concern with studying the relationship between the organization and environment, researchers may adopt qualitative methodologies. However, I would suggest that the type of data collected under this methodology and the way by which they interpret it, will be significantly different from the approach that

views reality as symbolic discourse or interaction. The different types of researcher will be seeking answers to different questions.

12.4 Qualitative Versus Quantitative

The term qualitative has many connotations, Halfpenny (1979) mentions the following which arose from an SSRC Workshop an qualitative methodologies: 'soft,' 'dry,' 'flexible,' 'fluid,' 'grounded,' 'descriptive,' 'exploratory,' 'pre-scientific,' 'subjective,' 'inductive,' 'speculative,' 'illustrative,' 'political,' 'non rigorous,' 'idiographic,' 'holistic,' 'interpretivist,' 'exposers' actors' meanings,' 'phenomenological,' 'relativistic,''case study,' 'good' and 'bad'. Implied in these are both appreciations and criticisms. The questions these various connotations raise is; What are qualitative data?

To the positivist,data are qualitative to the extent they are not described in quantitative terms or are not expressed in mathematical or formal language. Qualitative data is then seen to be expressed in ordinary natural language. To the positivist, qualitative data is problematic and deficient in that they are not expressed in objective measures. To the interpretivist,data are qualitative in so far as they are subjectively meaningfull, which interpretivists maintain is an endemic feature of social data. Qualitative data is not viewed to be incomplete quantitative data, but rather is authentic data in its own right (Halfpenny 1979).

A common application of the term qualitative is that it is a study of single cases. For the positivists the study of single cases is problematic.

> "Since social science purportedly aims at a nomothetic generalizable goal, a case history (read single case) is thoroughly flawed."
>
> Faraday & Plummer 1979

The positivist may employ qualitative data from a single case to generate hypotheses, however these hypotheses when generated must be tested and incorporated into theory conceived in the positivistic manner as a set of "interrelated nomic universals" (Faraday and Plummer 1979).

Halfpenny (1979) claims that for the interpretist, enquiry is to explain actions and interactions by conveying a culturally appropriate understanding of them;so interpretivist studies are necessarily case studies - studies of one culture, one conceptual framework, one frame of meaning. Thus generalizability is not problematic to the interpretivist. In addition to the assumption of uniqueness the interpretivists would also argue that the phenomena of interest to them,are subject to continual change, making it difficult if not impossible to combine different data at different times let alone different data from different settings.

I would suggest that the above is a rather extreme view of the interpretivist approach. Denzin (1978) argues that research methods serve to provide the researcher with data that later may be placed in a deductive scheme of thought. Through observation of several discrete concepts or a set of concepts,the researcher is able to move above the single instance or indeed case.

> "A failure to move beyond particular observations leaves the sociologist at the level of descriptive empiricism.

> Articulation between observations and some variety of theory must be established...Methods are one of the major ways by which sociologists gather observations to test modify and develop theory."
>
> Denzin 1978

Thus although a researcher engaged in observation must record the dynamics of the specific observational or social setting, he must also articulate these observations in terms of some theory. To achieve this the researcher must use his "sociological imagination" (Mills 1959).

12.5 Empirical Validity

A second contention between the positivists and interpretivists is the issue of empirical validity. The positivists would assert that establishing validity is to be achieved through the testing of a priori hypotheses. The researcher starts with the construction of a scheme, theory or model of the empirical world, setting or phenomena under study. The researcher then constructs hypotheses based on his assertions as to what he expects to happen under such and such a set of circumstances. The researcher then arranges a study of a given empirical area that represents these circumstances. (The researcher may replicate these circumstances in a laboratory). If the findings from such a study verifies the hypothesis the researcher assumes that the scheme, the model or the theory which the hypothesis has been drawn, is empirically valid. A theoretical assertion or hypothesis may be given greater objective validation by developing specific regularized procedures for approaching the empirical world. The given procedures may be the use of a test, a scale, a measuring instrument or a standardised mode of enquiry (Blumer 1970).

Blumer states that this approach results in:

> "An endless parade of research studies that consist of no more than applying already devised instruments, such as a scale or test to a different setting of group life. Without wishing to be overly harsh, I believe one must recognise that the prevailing mode in the social and psychological sciences is to turn away from direct examination of the empirical social world and to give preference, instead, to theoretical schemes to preconceived models, to arrays of vague concepts, to sophisticated techniques of research, and to an almost slavish adherence to what passes as the proper protocol of research enquiry...The prevailing disposition and practice is to allow the theory the model, the concept, the technique and the scientific protocol to coerce the research and thus to bend the resulting analytical depiction of the empirical world to suit their form."
>
> Blumer 1978

Thus by applying this approach the findings may give validity to the methods and theory but not to the empirical world.

For Blumer, the empirical world must, forever, be the central point of concern.

> "It is the point of departure and the point of return in the case of empirical science. It is the testing ground for any assertions made about the empirical world. "Reality" for empirical science exists only in the empirical world, can be sought only there, and can be verified only there."
>
> Blumer 1978

The researcher therefore must have a profound respect for the character of the empirical world. It demands that the investigator takes his theories and methods to that world, and therein enter into an empathetic understanding of the individuals. The aim of the researcher is to gain an understanding of the subjective meaning through which individuals

form their social world. The essence of most qualitative studies and particularly this thesis was one of discovery and development of concepts rather than the verification of hypotheses or some pre-existent theory.

12.6 Subjectivity Versus Objectivity

The above reference to "subjective meaning" has led the more positivist researchers to claim that interpretivist research is itself subjective. However as Colville (1981) notes:

> "If social science begins in an appreciation of subjective meaning that is attached to behaviour then it does not rest there."
>
> Colville 1981

It is necessary to maintain a distinction between the sociologist's conceptions of a subject's behaviour and the motives and definitions that subjects ascribe to their own conduct. Becker (1964) notes that the sociological view of the world is "abstract, relativistic and generalizing." On the other hand the everyday conception of reality that guides the subject's conduct is specific, tends to be generalizing and is based on special concepts that often lack scientific validity. Denzin (1978) suggests that the subjects own subjective meaning be termed "first order concepts" whilst the researcher's concepts be termed "second-order concepts." The researcher must operate between multiple worlds - the everyday worlds of the subjects and the world of his own perspective. Qualitative research goes further than merely taking the role of the other; the researcher must also place his analysis within an interpretive framework. However these 'second-order' concepts must always include and refer back to the subjective meaning which the action has for the actor (Schutz 1962). Thus the label subjectivist ascribed by

Morgan and Smircich (1980) is inappropriate, for qualitative research, which although interested in the subjective meaning of the actor, is not simply subjectivism itself. In fact Blumer would argue the reverse to be the case.

> "To try and catch the interpretive process by remaining aloof as a so-called "objective observer" and refusing to take the role of the acting unit is to risk the worst kind of subjectivism, the objective observer is likely to fill in the process of interpretation with his own surmises in place of catching the process as it occurs in the experience of the acting unit which uses it."
>
> Blumer 1978

12.7 Theory Generation

The inclusion of, and referral back to, the subjective meaning an action has for the actor, allows for the generation of a theory which has its basis in the data gathered from the empirical world. Glaser and Strauss (1967) offer the principle of grounded theory which is based on the concept of generating theory from the data. Theory is inductively developed from data and is said to be 'discovered'. Glaser and Strauss are critical of any procedures or approaches which either bias the collection of data or distort its subsequent development into theory. This view of theory developing from, or emerging out of the data, is altogether too naive. I would assert that no matter how ill defined a researcher's perspective is, it will impinge on the formation of the research problem, the gathering of the data and the subsequent analysis and development of theory. The entire act of research is oriented and shaped by the underlying perspective or picture of the empirical world that is used by the researcher. The ontological assumptions, assumptions about human nature and epistemology held by the researcher will

influence the development of theory or the outcome of the research act.

Thus the researcher moves from theory or possibly multiple theories (precisely or ill defined) to direct or concrete observations. This search for data may be likened to the process of exploration. Exploration involves a very free and unstructured set of observational activities. The researcher will admit any data and the data thus gathered will be used to critically evaluate his own theoretical perspective and in doing so the researcher will refine, develop or re-focus his perspective (Denzin 1978).

Having described the approach and perspective of the qualitative, interpretivist researcher it is now necessary to discuss the methods employed by me to formulate a research problem and gather data in this research project.

12.8 Methods

Whereas my perspective shifted and my topic changed during my field research the methods I employed to gather data remained fairly consistent. The method was that of participant observation which is defined thus:

> "Participant observations as a process in which the observer's presence in a social situation is maintained for the purpose of scientific investigation. The observer is in a face-to-face relationship with the observed, and, by participating with them in their natural life setting, he gathers data. Thus the observer is part of the context being observed and he both modifies and is influenced by this context."
>
> Schwartz and Schwartz 1955

The participant observer gathers data by participating in the daily life of the group or organization he studies. He watches the people

he is studying to see in what situations they ordinarily meet and how they behave in them. He enters into conversation with some or all of the participants in these situations and discovers their interpretations of the events he has observed. Thus participant observation allows the researcher to secure his data within the medium, symbols and experience which have subjective meaning to the members of the setting.

Thus, I observed the managers at Avon informing themselves through their observations, their interactions, their personal records, meetings and through the use of MADCAP and other official documents. In addition to this I talked with the managers at lunch, tea and coffee in their offices and on the shop floor. I interviewed some of the managers, more formally with a tape recorder, about the way they informed themselves and the meaning such information had to them. I observed them using information which they defined as meaningful to inform others and enter into joint action or arrangements with others. With my growing familiarity with the setting I observed the more or less permanent arrangements of the social groups and informant networks. I observed the managers behaviour within these arrangements and whilst much of their behaviour was repetitive, the managers were also able to improvise and develop new novel solutions for common problems and for new, novel problems.

The first two chapters are an attempt to describe my experiences as a participant observer which I would liken to that of a traveller rather than a tourist. In travelling there is no clearly defined route or destination. The traveller has a general geographic location in mind; however, the stopping places and routes between, are not known with any certainty. The journey is characterised by unscheduled interim destinations; the path decided en route, based on the tales of fellow

travellers and local inhabitants.

The spirit of the traveller is the pursuit of that which is unfamiliar, in doing so the journey is shrouded in uncertainty. The traveller will see and experience the country at ground level amidst the noise and seeming chaos. He will seek to understand the places he stops at and the people he meets. He will observe and talk to the locals about the culture, the customs and religion of their everday lives. He will exchange stories and anecdotes about their lives and ambitions and about their fears and frustrations. When a place is so familiar that it becomes common place he will move on, seeking new, unfamiliar experiences and greater understanding.

Through his understanding of these new and unfamiliar experiences he will bring into question that which is familiar to him, he will review the rules, conventions and customs of his own community and ultimately bring into question himself and the way he views the world. The traveller will take risks and forgo the security of convention and comfort, he will in effect relinquish his hold or loosen his grip on certainty and familiarity and actively pursue that which is unfamiliar and uncertain. This to me encapsulates the spirit of the participant observer.

The tourist on the other hand starts out with a predetermined route or schedule; including, the places to stop; the length of stay; the time and mode of transport between these stopping places. The route is planned in advance from travel guides or is bought in a package deal. The tourist will know beforehand what sights he is going to see, when he is going to see them and how he will get to see them. The tourist will talk with other tourists and the front men in the country; the

tourist guides and the hotel staff. What they say will be rehearsed and practised, based on their definition of what the tourist wishes to hear. The tourist will see the historical tourist sights, the polished monuments, maintained to please the foreign-currency-earning international tourist. The tourist will be transported in luxury air-conditioned coaches, protected from the less pleasant experiences of the inhabitants'everyday lives.

Through planning, uncertainty is minimised, the tourist guides and travel brochures will provide the necessary background (later to be reinforced by the tour guides) for the tourist to construct a picture of the reality he is going to view, before he views it. His picture of reality will incorporate the values, norms and taken-for-granted knowledge of his own community or society. Carrying this intellectual baggage with him, he will interpret the customs, culture and actions of the people he meets and the events he observes within his preconceived framework. The tourist then will not understand the places and people he meets within the context of the place and the peoples'behaviour, but will do so within his own context. Whereas the traveller will bring into question his own community's norms and values and himself, the tourist will reinforce his own values and norms and his conception of self. The traveller in journeying may alter the way he views the world, the tourist almost certainly will not. This for me describes the research act of the positivist.

12.8.1 Selecting a Setting

In this particular research project, the selection of a setting occured through a combination of fortuitous circumstance and desperation. After

my experiences with the Area Health Authority, I was prepared to accept any research setting as long as it was an organization which dealt with financial information. I was fortunate in finding RTG and Thomas Bart who granted me access or arranged for me to have access to RTG Plastics. The process of negotiating entry was not a particular issue at the outset of my research in that no formal contract or agreement was drawn up. The arrangement I entered into with Chris Davis and the other members of the setting evolved, I would suggest, through improvisation once I had gained access. The nature of the arrangement will unfold in the following discussion.

12.8.2 Topic Selection

The selection or finding of a setting is related to the selection or choice of a topic for research. Johnson (1976) notes:

> "The methodological literature would have us believe that in conducting research we have a clearly defined problem and method to investigate that problem in a chosen social setting. Whereas in reality the researcher will first find a setting which will grant access to the researcher who will then seek a problem to study."
>
> Johnson 1976

At the beginning of my research I had a topic to study, namely; to study the effect that a change in the financial information system would have on the organization and its members. On arriving at Avon I was expecting to study the introduction of the contribution approach (page 25). Circumstances and the interests of Chris Davis was to change that. Firstly, the contribution approach had already been introduced and secondly, Chris Davis had a vested interest in my aiding in the development of a production information system. Thus the research setting in part determined the research topic. This

topic still permitted me to introduce my organization change model (page 30) and thus I was willing to remain in the setting. In attempting to operationalize the model I was thwarted by my data, in that although we produced MADCAP and although changes did take place, none of the managers attributed these changes to the introduction of MADCAP (page 99). Through my previous observations and conversations with the managers and the stalemate I had arrived at with my change model, a new topic emerged, namely to study how managers informed themselves. This led to my interest in "informal information" and in particular the process of informing and interaction.

My selection of a topic to study was then grounded in the empirical world and my data. It was in keeping with the spirit of the traveller and the concept of exploration. Blumer (1978) describes the process of exploration.

> "The purpose of exploratory investigation is to move towards a clearer understanding of how one's problem is to be posed, to learn what are appropriate data, to develop ideas of what are significant lines of relation, and to evolve one's conceptual tools in the light of what one is learning about the area of life. In this respect it differs from the somewhat pretentious posture of the research scholar, who under established scientific protocol is required in advance of his study to present a fixed clearly structured problem."
>
> Blumer 1978

By allowing the topic to emerge the researcher can identify what is meaningful and live to the participants of the setting. By maintaining flexibility the researcher will gather all possible data and through understanding and familiarity with the people in the setting, identify that data which reflects a topic or problem which is of a defined consequence to the lives of those people. This does not mean that the

research has no structure or direction, rather that the topic of interest should be general, that the focus should be broad. I would suggest that it is important to ask general and simple questions at the beginning of a research project. Such as; How do managers inform themselves?

12.8.3 Data Gathering Techniques

Participant observation may be formal or informal; overt or covert; active or passive. The stance the participant observer takes will influence the definition the members of the setting holds for the researcher and thus the quality and type of data gathered. I would describe my stance as being informal, largely overt and highly active.

My research style was informal in that I entered into the lives of the individuals, I shared anecdotes, stories and jokes with the managers, I took an interest in their personal, social lives as well as the work lives. I discussed topics of general, setting specific and task directed natures. Furthermore I became good friends with some of the managers. Vidich (1955) notes that:

> "Whether a field worker is totally, partially or not at all disguised, the respondent forms an image of him and uses that image as a basis of response. Without such an image the relationship between the field worker and respondent, by definition, does not exist."
>
> Vidich 1955

Thus to a large part the researcher's role in an organization is one of managing his performance and others'definitions of him. The managers had differing images or definitions of me just as they had differing definitions of each other and in turn just as I had

different definitions of them. My earliest encounter with David Clark at the accountants conference set the style of our relationship (page 8). Throughout my research David Clark was a reluctant subject. Mike Shilling at first defined me as the lackey of Chris Davis and let it be known that he had no intention of being interviewed; however, through being careful with Mike, he ultimately provided me with valuable information (page 56). Charlie Johnson viewed academics with disdain; however, through interacting with him, and telling him of my work experience and of my journey in America he changed his image of me and again supplied me with valuable and extremely rich data (page 59). Simon White had to deal with me in my infancy, when the production process and the people in the factory were alien to me. He had to put up with my interminable questioning which quite simply made him "fed up with me." Although Simon supplied me with data he did so with reluctance. Jim Brown, Peter Travers and later Nigel Plant took an active interest in me, they questioned me about my work and about my social life. They were of the same age group and shared similar interest to me and we became extremely good friends. My informal style went down well with Mary and Jane who provided me with much valuable background material of the "goings on " in the factory.

I became a familiar figure in the factory by remaining there for four days a week, eating with the managers at lunch and having morning coffee and afternoon tea. I learned the language of the plastic container manufacturers, the names of the various materials, machines and the nature of the production process itself. Furthermore, through observation at meetings and through hearsay, I built up a picture of the social relationships between the managers, the conflicts, hostility and friendships. In doing this I could enter into conversations using

their own language, including the swearing and thereby become more inconspicuous. However, although I became a pseudo member of the setting, I was never a full member, for I belonged to a different setting and life style. Like the traveller I remained a foreigner. This pseudo membership afforded me the ability to distance myself from the setting whilst also allowing me to enter into the lives of the members and gain an understanding of the subjective meaning their actions had for them. Thus whilst I immersed myself in the setting I never drowned. I maintained a critical distance which permitted me to interpret as well as record the actions and interactions of the members.

My research was largely overt in that my function as a researcher was made explicit. Each individual knew I was from Bath University and was interested in studying information. I say largely overt because there was considerable ambiguity about my role.

Being introduced by David Clark as an expert coming to "sort out" their information system created a false image of me and my role. It took a considerable effort to convince the managers that I was there primarily to learn. Although the managers knew that I was interested in information there was some ambiguity about what aspects of information I was interested in, this was in part because of my own uncertainty but also because I kept the description of my interests vague. This allowed me to ask questions of a general nature which meant that my interviews and discussions were essentially unstructured. By cultivating this ambiguity my data gathering was in part covert, for the managers were never quite sure which parts of our conversations were data and which were not. My research was further covert in that most of the managers did not regard our informal talks at lunch and in the

pub as being part of my research.

The advantage of this approach was that performances specifically constructed for me as a researcher were minimised. I think such performances did occur, for instance Charlie Johnson enjoyed our conversations and regarded them as a forum for expressing his dislike about certain issues and indeed people; see page 172 where he comments on Cyril Jenkins and page 64 where he was insistent on discussing the newly introduced incentive scheme.

My research was active in that I did not adopt an aloof position, as an impartial uninvolved observer but was actively involved in certain projects. Firstly I was a member of the working party to design MADCAP, or to tidy up the existing information, and was also involved in producting a report on finished goods stock control. My active participation created a certain amount of confusion; however, it permitted me to drop my researcher script which allowed closer contact with the managers. Whilst engaged in these activities I continued to gather further data (page 55).

12 .8.4 Researcher Bias

The degree of closeness I achieved has a number of implications for the data I gathered. As mentioned in the initial definition of participant observation the presence of the researcher would affect the setting. My presence introduced a new element into the factory life which could be argued would influence the data I gathered. This is undeniably true, however I would argue that an aloof participant observer would introduce more bias into the data. A passive observer would for ever remain

conspicuous and thus not be able to develop the trust and confidence of the members of the setting. Furthermore, it is the intention of the qualitative researcher to gain an insight into the subjective meaning the participants held for their actions, this in my view requires a closeness. The researcher must be able to speak the same language as the participants and frame his questions within that language. The researcher requires a closeness to gather the first order concepts to be later interpreted within the framework of the theoretical perspective.

2.8.5 Verification

Another implication is that by developing a closeness the researcher may be unable to verify the data he gathers. In answer to this question of verification Denzin (1978) advocates triangulation, or using a combination of methods for gathering data. He suggest that the participant observer may use a combination of interviewing, document analysis, direct observation and observer participation. I would suggest that this is what I actually did in my research. However, although I gathered samples of managers' personal records and observed their format, content, circulation and timeliness (document anlysis) and was myself involved in the design of MADCAP (observer participation) my main sources of data came from direct observation of the managers'actions and through discussing these during informal talks and more formal interviews.

In observing managers gathering and using information I subsequently discussed these observations with the managers, in turn these discussions led to further observation of events or actions brought up by the managers and which I had failed to observe previously. For example, being informed that the managers had failed to receive a copy of MADCAP during its trial run, pointed me towards observing how managers <u>did</u> inform themselves

without the production information (page 104). Comments made by Peter Travers concerning the inaccuracy of the stock levels led me to unearth the personal records kept by the Sales Account Executives. Thus I was continually verifying my observations through the accounts supplied by the managers and verifying the accounts by further more detailed observations.

I was in effect engaged in a kind of immediate "account analysis" where I could test the warrantability and intelligibility of the accounts supplied to me by the managers (Harré and Secord 1977). Through continual observation of events and of the actions of the managers I became sufficiently familiar with the setting to judge whether their accounts were valid or credible. Furthermore I developed definitions of managers as key informants who I could rely on to supply me with reliable information. For example, during my work on stock control, Peter Travers supplied me with examples of inaccurate recording.

12.8.6 Ethics and Confidentiality

I, in effect, developed an informant network, in consequence the concept of reciprocity of information became important. In order to be supplied with reliable information, I in turn had to supply the managers with equally reliable information, (see page 61 where I informed the managers of the new RTG salary structure; page 61 where I informed them of the new Personnel Manager's identity; and page 60 where I informed them of Chris Davis' relationship.) The supplying of information has implications in terms of ethics and in terms of confidentiality. Ethically I was in the wrong to report Chris Davis' personal life to the managers, but in doing so I formed a more valuable arrangement with Jim Brown and Peter Travers for they in turn supplied me with detailed

information on their definition of others which I regarded as being crucial to the process of informing. In terms of confidentiality I had to develop the image of myself as an informant and not an informer; however in being an informant to the middle managers I necessarily became an informer to the senior management. I suspect my closeness to the middle managers was responsible for Cyril Jenkins' avoidance of being formally interviewed. I was particularly careful to avoid passing on sensitive information to the middle managers and only passed on information that was to be made public shortly afterwards.

In conclusion I would assert that wherever possible one's own actions in a research setting should be made explicit; for the reader must be afforded the ability to examine the role of the researcher and the way in which the data is gathered. In qualitative research the researcher must take himself seriously; in this sense the researcher becomes both object and subject of his studies. His reflections on himself and his conduct in interactive sequences become data in themselves (Denzin 1978).

12.8.7 Analysis of Data

From a mechanical stand point dealing with a year's worth of field notes and tape recordings was problematic. In presenting the data in a narrative style I was at first able to structure the data chronologically; selecting particular events that were of significance to my experiences as an observer; the initial meeting with Jane and Mary; my first lunch in the canteen; meeting Chris Davis; the Working Party Meetings; the production and planning meetings; and so forth. Dealing with the data concerning the managers before and after view of MADCAP was structured at its point of collection and I was able to arrange it in various categories such as criticisms of inaccuracy, untimeliness and

so forth. I structured the data on "informal" or alternative information sources in terms of the media, subject matter and degree of contact. Thus the mechanics of how managers informed themselves were relatively simple to deal with.

In categorising the data, some structure was imposed. It provided a descriptive map which was useful in that it provided a picture of the setting and of the processes and the people involved in the setting. However, at this stage the research was simply investigative journalism, valid in its own right but inadequate for scientific enquiry. It was then necessary to analyse or interpret the story or map and in doing so I had to employ my"sociological imagination."

Having identified the externally observable, "accessible mechanisms" I required a model to interpret the internal subjective processes whereby the managers converted mere information or data into meaningful information. My chosen model of conceptual framework was that of symbolic interaction. This model was satisfactory in terms of interpreting the individual in interaction. The analysis depicted interactions in a vacuum; however, interaction took place in some organizational context. Not wishing to introduce an antagonistic theory, I examined negotiated order theory which has its roots in interactionism. At first this theory appeared satisfactory, however with close examination and in attempting to operationalize Strauss's paradignm, with its ambiguities, a number of contradictions between my observations and the theory became apparent. In seeking a solution, the concept of improvisation arose. It was a term I used extensively through listening to and reading about jazz. The concepts of improvisation and arrangement provided an appropriate metaphor to interpret the individual creative nature of the managers,

the nature of joint action, and the creation, modification and or sustaining of organizational order at the middle management level of the factory.

Thus my conceptual framework, for I would not claim it constituted a theory as such, emerged out of a combination of observation and theory. which was in turn influenced by my ontological assumptions, assumptions about human nature and epistemology. Strauss (1970) raises the issue of discovering new theory from old theory when he argues that we need not ignore previous theory to:

> "Show ourselves master of our own data or to parade our originality."
>
> Strauss 1970

Bulmer (1979) similarly notes that:

> "The distinctive character of concepts in empirical social science derives from this dual theoretical and empirical character. The process is one in which concepts are formed and modified both in the light of empirical evidence and the context of theory. Both theory and evidence can exercise compelling influence on what emerges."
>
> Bulmer 1979

12.8.8 Thesis Presentation

The initial quote in this section by Tomkins Rosenberg and Colville (1981) implies that writings in the social sciences and management information systems rarely provide an account of how the actual research took place. This state of affairs is again attributable to the "slavish adherence to scientific protocol" at the presentation stage. For even

in qualitative research there is often a pressure to conform to the conventional manner of presentation. Writers attempt to minimise their own presence by referring to themselves as "we," or "the author," the "grant holder" or the "researcher." I attempted to experiment with the style of presentation, to express the data section in the first person singular and adopt a narrative style. Only then having told the story did I embark on the presentation of analysis and interpretation.

Blumer (1978) advocates that the research should depict the entire scientific act which includes the following:

a) The possession and use of a prior picture or scheme of the empirical world under study; these premises should be made explicit. Blumer argues that it is:

> "the unavoidable task of genuine methodological treatment is to identify and assess these premises."

b) The asking of questions of the empirical world and the conversion of questions into problems; Blumer argues that it is

> "highly important for the methodologist to examine carefully and appraise critically how problems are selected and formulated."

c) Determination of the data to be sought and the means to be employed in getting the data; Blumer argues that:

> "Even though set by the problem, the data need to be constantly examined to see if they require the revision or rejection of the problem." Beyond this it is important to recognize that the means used to get the data depend on the nature of the data to be sought."

d) Determination of relations between the data; Blumer argues that;

> "Since the establishment of connections between the data yield the findings of the study, it is highly important to be aware of how such connections are reached."

e) Interpretations of the findings; Blumer argues that;

> "This terminal step carries the scientist beyond the confines of the problem he has studied, since in making interpretations he has to relate his findings to an outside body of theory or to a set of conceptions that transcend the study he has made."

In presenting this thesis I have attempted to fulfil these recommendations and make my role, the role of the researcher, explicit in the scientific act. In summary I quote Young (1980) as reflecting my stance.

> "Social science methodology in its quantitative mode should recognise the primitive character of its operations and not insinuate these as superior to folk methods. One should realize that quantification is a process by which the richness of everyday life is made progressively more barren as it proceeds. One discards information (variety) as human behaviour is organized into word sets. Still more information is discarded as one transfers data from words sets into number sets - a number set is simply not as informative as a word set since word sets are not limited by the constraints of number sets - ordinality, intervality, and rationality. One loses still more information as one converts descriptive parameters into summary statistics. Quantification, then,is a process by which information is systematically discarded. One must not assume that, since valuable information is obtained by such distillation, this knowledge surpasses that produced by symbolic interaction using words or by behavioural interaction.
>
> If the quality of human life is intimately connected to the quality of its symbolic systems (as indeed they are), then passion, anger, joy, disgust, hope and rage should not be excluded from the pages of authentically human endeavour. The languages of business, mathematics, computers and science are too poor a vehicle upon which to place the fate of human society. They are too meagre, too remote, and too barren a soil in which to plant ideas."
>
> Young 1980

If we recognise the humanness of the individuals we research,we must also recognise the humanness of the researcher. The "Routine Observational Boob" (Douglas 1977) and the "Ideal Sentential Automaton"(Churchland 1979) are myths of the research world.

12.9 Multi-Disciplinary Research

At the outset, my research was intended to be multi-disciplinary. Embarking on a multi-disciplinary research project has a number of implications for the researcher and the research act. Two approaches to multi-disciplinary research exist. Two or more researchers from different disciplines may jointly engage in research, thus forming a multi-disciplinary team. See Tomkins Rosenberg and Colville (1980) for an account of such an approach. On the other hand a single researcher may "go it alone" and attempt to become multi-disciplinary himself, this is the approach I chose.

At the beginning of any research project the researcher will be in possession of a body of knowledge. This body of knowledge represents the "mother discipline," the tradition or orthodoxy of the researcher. If the researcher wishes to become multi-disciplinary he will have to develop an understanding or knowledge of some other discipline. In my case my "mother discipline" was financial or management information systems theory and I attempted to become familiar with sociology and social psychology.

Immediately a problem arises. Sociology and social psychology are pluralistic disciplines, characterised by numerous alternative conceptions of theory, explanation and data. There are in fact, numerous different approaches, perspectives, orientations or paradigms.

Thus within the social sciences there are a number of complementary and antagonistic perspectives that purport to explain the same phenomena (Colville 1981).

If a researcher possesses a "mother discipline" he will be familiar with its theoretical perspective, its methodology, its accepted method of analysis and its mode of presentation. It is therefore hardly surprising if a researcher explores the discipline he wishes to borrow from in order to unearth a theoretical perspective, with a methodology, an accepted method of analysis and a mode of presentation that is complementary with his "mother discipline." The study of the behavioural implications of accountancy and management information systems have in the main done just this. The model of man or assumption about human behaviour borrowed, mainly from psychology, have tended to depict man as machine or adaptor and which emphasises his need fulfilling or goal achieving tendencies. Colville (1981) describes the state of affairs thus:

> "Accountants (and management information theorists) tended to approach the behavioural sciences in the role of voyeurs and collectors. The literature has been examined with the intention of identifying theories and concepts which are directly or potentially relevant to the study of the behavioural aspects of accounting. While there is nothing inherently wrong or illegitimate about such an activity, it demands an awareness of the context in which the theory was developed, its range of convenience and how it stands in relation to other approaches which purport to explain the same phenomena."
>
> Colville 1981

In the main the study of the behavioural and organizational aspects of accountancy and management information systems have tended to borrow outdated theories from the social sciences and which have come under considerable attack in their mother discipline.

It is my belief that the multi-disciplinary researcher must attempt to operate at the forefront of the discipline he wishes to borrow from. He must also develop a genuine understanding of that theory. He must come to terms with the philosophical underpinnings, the ontological assumptions and the assumptions about the nature of human behaviour on which the theory was generated. To attempt this, as Birnberg (1973) notes,requires a considerable amount of effort and time. The social science rhetoric poses many difficulties for the unfamiliar or uninitiated, single terms have multiple definitions and the differences between the various perspectives, which are readily apparent to social scientists themselves, appear subtle and confusing to the naif. It was in my attempt to achieve this state of affairs that I developed my knowledge of symbolic interactionism. This theory however, I found to be antagonistic to the assumptions and philospical underpinnings of management information systems theory. Furthermore the methodology, the method of anlysis and mode of presentation advocated by symbolic interactionists was significantly different from that of the MIS theorists.Because of the fundamental inconsistencies between the two disciplines a match between them was not feasible. The purpose of symbolic interactionist research is to uncover the subjective meaning the action has for the actor and how these actions and interactions shape and form organizational reality. The information systems theorists are interested in the design of concrete structures and processes, and appear to be interested in human behaviour only in so far as it is affected by and affects these structures and process. Individual and group behaviour is viewed as a contingency factor and is studied in terms of consonance and dissonance between the factor and the management information system (Gordon and Miller 1976 and Waterhouse and Tiessen 1976).

With my growing appreciation of symbolic interaction I began to drift away from the traditional management information perspective. The unfamiliar (symbolic interactionism) became familiar and my mother discipline, management information system theory, became unfamiliar or alien to me. What commenced as a multi-disciplinary research to study information systems and behaviour became more of a single disciplinary project examining the process of informing. References to the traditional view of management information systems were in the main critical. My observations and the symbolic interactionist perspective undermined my belief in, and commitment to, the traditional view of information systems.

It it my belief that researchers, from any discipline, should adopt a perspective, and especially a methodology, that will allow them to find out what actually goes on in organisations whatever the consequences for their models of reality as constructed and perpetuated by academic researchers. It is only when we know what "is" (Swieringa 1980) may we, as academic researchers involve ourselves in what "might be" (Hopwood 1980).

APPENDIX I

RESEARCH PROPOSAL FOR R.T.G.

OUTLINE OF PROPOSED RESEARCH

PROPOSED TOPIC

To study the effects of human behaviour on the financial information system, and the effects of the financial information on human behaviour.
(The financial information system being the collecting, processing and use of financial data within the organisation.)

OVERALL RESEARCH DESIGN

I intend to make a comparative study, that is, to study indepth a number of organisations of differing natures, or ones working towards different objectives. Interms of my proposed research in R.T.G. I would ideally like to select two or three divisions within the group, and as a comparison choose two or three district health authorities in one area of the National Health Service.

METHOD OF RESEARCH

I would use a qualitative method of research with the emphasis on interviewing and observations to gather data, rather than questionnaires and statistics. The principles of science that I will be working on assert that the classical hypothesis testing model is inappropriate for the study of human behaviour. Rather than preparing the hypothesis befor the fieldwork, the hypothesis be prepared during and after this perion. This method is described as being like the process ofdiscovery and exploration rather than laboratory experimentation.

Although I have no fixed hypothesis to test there are certain points or ideas that I will home in on at the beginning of my fieldwork. These are:

1. To compare a working description of financial information systems

with the textbook definitions.

2. To examine the characteristics of the system in relation to the structure of the company, its objectives, the nature of the product and the culture of the management.
3. To study how people define or describe the system; what terms they use to refer to it; and to accountancy in general.
4. If possible I would like to see how, if at all, differences in the definitions affect the efficiency of the system and the goals of the organisation.
5. I would like to feed back my findings to the people involved, and if there are problems or areas of discrepancy in the definitions held, to discuss these in an open forum.

ACADEMIC CONSIDERATIONS

Considerable work has been done on the structure and mechanical processes of financial information systems. These works have usually avoided dealing with any aspect of human behaviour. Although designers may have developed technically efficient systems, they have one flaw. The system designers have failed to adequately consider the effects of human behaviour on the systems and the effect of the systems on human behaviour. Any work that has delt with human behaviour has usually assumed man to be a rational economic being, or one motivated by a need hierarchy. I feel that this is either unfair or too simplistic a definition of man. In this research I propose to concentrate on the behavioural implications of information systems, rather than on the technical. I further intend to adopt a more human view of man, as is emerging in the social science literature.

APPENDIX II

MY EARLIEST RESEARCH PROPOSAL

RESEARCH MODEL AND ASSUMPTIONS ABOUT THE INTERFACE OF O.D. AND FINANCIAL CONTROL SYSTEMS

O.D. may be viewed as a means to an end rather than as an end in itself. The end is in fact some clearly defined goal or objective.

O.D. is

1) the PROCESS by which this goal is to be achieved
2) a means to facilitate organization self-renewal taking place in the future i.e. to develop an ON GOING CYCLE.

Traditionally O.D. focuses on human behaviour processes within the organisation, such as the attitudes, values and beliefs of the individuals, and interpersonal, group and intergroup relationships.

This focus I contend is often not sufficient to ensure

1) that the goal will be accomplished
2) that change in behaviour will be maintained
3) that O.D. will develop into an ongoing process within the organization.

Thus if any O.D. effort in which changes in behaviour are to be used to accomplish a goal, it must also include means of ensuring that such changes will occur, will be maintained and where desired will be ongoing.

In order to achieve this, I propose a model with the following characteristics:

1) it is a systems approach
2) it is concerned with structural and processual variables
3) it is action research oriented.

An organization viewed as a system may be divided into subsystems in many dimensions. I have identified four key areas, (functions or subsystems),which have a high degree of influence on the other subsystems in the organization, and are in turn influenced by them. These are:

1)	OBJECTIVES	(O)
2)	ADMINISTRATIVE SYSTEM	(AS)
3)	CULTURE	(C)
4)	TASK	(T)

as can be seen, these divisions are not from one single dimension. The fifth subsystem to be included and examined, by virtue of the title of the research is the financial control system (FC), it could as easily have been the production system, the marketing and sales function or the personnel function.

In using a systems approach three factors must be considered:

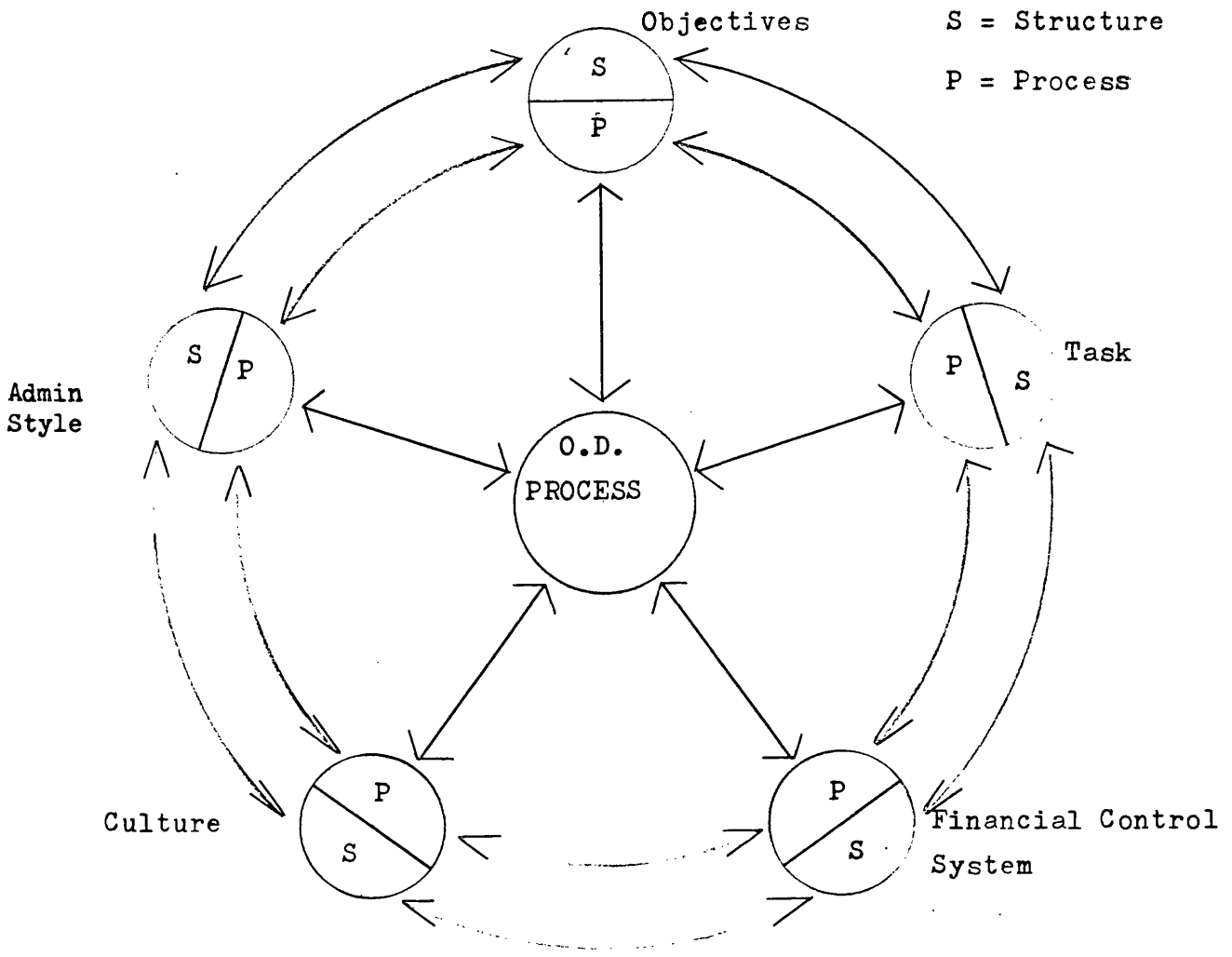
1) the inter-dependency between the subsystems
2) the fact that each system has a structure and process
3) the morphogenic properties of an organization i.e the system can change shape, size and nature.

The interdependency factor means that a change in any subsystem could reverberate throughout the whole system and effect each other subsystem in turn. Such a situation must be explicitly taken into account in the model, otherwise dissonance between the subsystem may arise.

The fact that each subsystem has a process and structure needs to be taken into account, for a change in the process of the subsystem without a resulting change in the structure could lead to internal dissonance.

The morphogenic nature of organizations makes it legitimate to consider changing the shape, size and nature of the various subsystems in order to find consonance between, and within them, and to accomplish the objectives of the change programme.

Another point to be considered before the model is presented, is in which area of the system and subsystem does the traditionally behavioural oriented O.D. programme have most impact? As stated in the beginning, O.D. is concerned with the human behavioural processes. Its greatest influence would seem to be in the area of cultural processes, however, because of the interdependency factor all subsystems would be influenced to some degree or other. Because O.D. itself is a process and is concerned with the human behavioural processes in the organization it follows that an O.D. intervention would have the greatest impact on the processes of the subsystems rathern than on the structures.



This model is an attempt to show:

1) The interdependencies between

   a) O.D., the 4 key subsystems and the financial control system.

   b) The subsystems themselves

   c) The structure and process within each subsystem.

   The interdependencies are represented by the lines of interaction. These interactions could be of:

   a) Interactive dissonance

   b) Interactive consonance

2) That the main impact on an organization through an O.D. programme is in the processes of the subsystem involved and not the structure.

This model could be further refined by dividing the process subdivision into two parts, the division would be

Mechanical or instrumental process

Human behavioural process

The mechanical or instrumental process would be the physical means of accomplishing the functions within the subsystem.

Thus for the communication system within the administrative system one could have:

STRUCTURE	MECHANICAL PROCESS	HUMAN BEHAVIOURAL PROCESS
Who communicates with who? i.e. the formal hierarchy.	What means do they use? i.e. forms, committees and meetings.	How well do they communicate? The degree of personal interaction.

The research would be action oriented in that the researcher would be actively involved in a change programme. In addition to the data gathered during the design and implementation stage, questionnairres and follow up interviews would be arranged before the O.D. programme and after its completion.

APPENDIX III

INTRODUCTION TO AND EXAMPLES OF MADCAP

MADCAP

INTRODUCTION

MADCAP (Management Action Data Computer Analysis Program) is a general Management Information package designed to run in batch mode on IBM 370/148 computer. It can be used for investigational work or the production of regular reports and has the following features:-

1. the package is simple to use and can be employed to set up management information systems quickly. No Data Processing expertise is required;

2. large volumes of raw data can be handled economically and a wide range of reports can be generated easily;

3. as a matter of policy the package does not incorporate facilities for specialist applications, e.g. financial accounting, statistical tests etc. It is a tool for the general manager concerned with controlling resource utilisation and progress towards objectives;

4. its flexibility is such that it can be adapted to many other uses, such as market survey analysis, file interrogation etc, - providing the aim is to search for patterns and trends rather than produce long listings of individual transactions.

This Users' Guide assumes some formal training in use of the Systems Grammar for data-base design and is intended to be read in conjuction with a separate 'Examples' folder.

TABLE 001 JOB RUNNING EFFICIENCIES - DEPARTMENT 23(A)

RUN DATE 24/04/79

RECORDS INCLUDED 144

MACHINE (01 00-26)	FOLIO	ESTIMATED OUTPUT/HR	ACTUAL ALLOC'D HRS	OUTPUT	RUN HOURS	NON-RUN %	OUTPUT/HR	RUN EFF %
KAUFMAN 1								
Birds Eye Melba Lid	18.7090	525	46.00	15558	37.25	19.0	418	79.6
Birds Eye Melba Tubs	18.7100	525	71.75	28180	67.25	6.3	419	79.8
Parker 2 Litre Lid	4.1210	535	16.25	6436	14.00	13.8	460	85.9
Express 8oz Cott. Cheese Tub	45.6280	525	10.00	3908	9.50	5.0	411	78.4
KAUFMAN 2								
BRIDGE								
Express 8oz Ski Coll.	45.6290	225	2.75	406	1.50	45.5	271	120.3
DRG Flex.	1.1040	360	13.00	3524	12.50	3.8	282	78.3
Ass. Milk 6oz Pot	45.6620	400	77.25	24312	69.00	10.7	352	88.1
Birds Eye Doughnut	18.7050	220	35.00	6106	27.25	22.1	224	101.9

TABLE 002 JOB CHANGEOVER EFFICIENCIES - DEPARTMENT 23(A)

RUN DATE 24/04/79

RECORDS INCLUDED 52

MACHINE (G1 00-36)	FOLIO	ESTIMATED C/OVER HRS	ACTUAL C/OVER HRS	ACTUAL AS % ESTIMATE	EST'D RUN ADJUST HRS	ACT'L RUN ADJUST HRS	ACTUAL AS % ESTIMATE
KAUFMAN 1							
Birds Eye Melba Lid	18.7050	0.00	3.50	**********	0.00	1.00	**********
Birds Eye Melba Tubs	18.7100	3.00	0.50	16.7	0.00	0.50	**********
Parker 2 litre Lid	4.1210	3.00	0.75	25.0	0.00	1.00	**********
Express 8oz Cott. Cheese Tub	45.6380	0.00	0.50	**********	0.00		0.0
KAUFMAN 2							
BRIDGE							
Express 8oz Ski Coll.	45.6290	0.00		0.0	0.00	1.25	**********
DRG Flex.	1.1040	3.00	0.25	8.3	0.00	0.25	**********
Ass. Milk 6oz Pot	45.6620	3.00	2.25	75.0	0.00	4.75	**********
Birds Eye Doughnut	18.7050	2.10	1.25	59.5	0.00	3.75	**********

RUN DATE 24/04/79

TABLE 005 TIME ANALYSIS (HOURS) DEPARTMENT 23

RECORDS INCLUDED 394

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ACTIVITY (E1 01-16) \ MACHINE (A1 01-12)	1	2	3	4	5	6	7	8	9	10	11	12		
WAIT LABOUR				6	7	16	8	7	4	13	21		=	82
WAIT INSTRS					5		3		1				=	9
WAIT MATERIAL													=	0
WAIT TOOL/MOULD											1		=	1
FAULTY MATERIAL	1		3				0			0			=	4
FAULTY TOOL/MOULD				1		1	11	3					=	15
WAIT ENGINEER						1	1						=	2
MECHANICAL BREAKDOWN	7		1		7	0			4		2		=	20
ELECTRICAL BREAKDOWN			1				2				15		=	17
MACHINE MODS.													=	0
SERVICES BREAKDOWN													=	0
TOTAL DOWNTIME	7		4		14		17		13		15			
		0		0		11		25		5		36		148
SETTERS CHANGEOVER	5		4			4	4	8			0	8	=	34
FITTERS CHANGEOVER						17	3	5					=	24
RUNNING ADJUSTMENT	3		10		7	3	5	16	7	16	4	1	=	69
TRIALS	1						2						=	3
TOTAL CHANGEOVER ETC	9		14		7		13		7		4			
		0		0		24		29		16		5		130
TOTAL STOPPAGES	16		18		22		31		20		19			
		0		0		35		54		21		45		276
RUNNING	128		110		59	53	58	35	45	75	46	19	=	626
	144		128		80		88		64		64			
		0		0		88		88		96		64		904

ACTIVITY (E1 01-16) / MACHINE (A1 01-12)	MANUAL FEEDER	MANUAL FEEDER	DIGITAL STATION	1	2	NEW FEEDER	1	2	3	4	5	6	NEW DELIVERY	NEW DELIVERY		
WAIT LABOUR				7.2	7.4	18.5	9.1	10.9	4.4	20.3	32.4			=	9.0
WAIT INSTRS					5.1		3.4		1.0					=	0.9
WAIT MATERIAL														=	0.0
WAIT TOOL/MOULD											1.6			=	0.1
FAULTY MATERIAL	0.3		2.3				0.3			0.4				=	0.4
FAULTY TOOL/MOULD				1.6		0.6	11.9	3.9						=	1.6
WAIT ENGINEER						0.6	1.1							=	0.2
MECHANICAL BREAKDOWN	4.9		0.4	9.1	0.3			5.5		2.3				=	2.2
ELECTRICAL BREAKDOWN			0.4				2.6				22.7			=	1.9
MACHINE NDS.														=	0.0
SERVICES BREAKDOWN														=	0.0
TOTAL DOWNTIME	4.9		3.1	17.8		19.6		20.3		23.0					
		0.0			12.8		28.4		5.5		56.6				16.4
SETTERS CHANGEOVER	3.6		2.9		4.8	4.8	9.1			0.4	12.9			=	3.8
FITTERS CHANGEOVER					19.3	2.8	5.4							=	2.7
RUNNING ADJUSTMENT	1.7		7.8	9.1	3.1	5.4	17.9	10.2	16.1	5.5	0.8			=	7.6
TRIALS	0.9					2.0								=	0.3
TOTAL CHANGEOVER ETC	6.2		10.7	9.1		15.1		10.2		5.9					
		0.0			27.3		32.4		16.1		13.7				14.4
TOTAL STOPPAGES	11.1		13.9	26.9		34.7		30.5		28.9					
		0.0			40.1		60.8		21.6		70.3				30.6
RUNNING	88.9		86.1	73.1	59.9	65.3	39.2	69.5	78.4	71.1	29.7			=	69.2
	100.0		100.0	100.0		100.0		100.0		100.0					
		0.0			100.0		100.0		100.0		100.0				100.0

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TABLE C07 MACHINE EFFICIENCIES - DEPARTMENT 23

RUN DATE 24/04/79

RECORDS INCLUDED EEC

MACHINE (A1 01-12)	RUNNING HOURS	NON-RUN TIME (%)	RUNNING EFF'CY (%)	OVERALL EFF'CY (%)
KAUFMAN 1	128.00	11.1	94.5	85.0
KAUFMAN 2		0.0	0.0	0.0
BRIDGE	110.25	13.9	90.8	84.6
MACHINE GROUP	238.25	12.4	92.8	86.9
PLASTIFORM		0.0	0.0	0.0
RDM 1	58.50	26.9	85.2	82.3
RDM 2	52.75	40.1	95.6	68.7
RDM 3	57.50	34.7	83.1	67.0
RDM 4	34.50	60.8	120.0	58.4
RDM 5	44.50	30.5	90.7	70.5
RDM 6	75.25	21.6	96.4	78.7
MACHINE GROUP	323.00	35.5	93.6	67.8
WADDINGTON 1	45.50	28.5	126.0	94.3
WADDINGTON 2	19.00	70.3	72.4	21.5
MACHINE GROUP	64.50	49.6	110.2	57.5
	625.75	30.8	95.0	72.1

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